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## Forward Work Programme

*Release Version: 1st February 2012*  
*RAMM Software Ltd*  
*Auckland*  
*NEW ZEALAND*



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## Document Release

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## About This Guide

Forward Work Programming in RAMM was originally funded by the New Zealand Transport Agency (NZTA). This guide has been reproduced with their kind permission.

This guide is specifically intended to help you use and understand the functions of the Forward Work Programme module in the RAMM software from [RAMM Software Limited](#).

You may also need to refer the *Using RAMM* guide. If you are not sure whether you are reading the right guide, see RAMM Guides and Manuals (on page 23).

This section tells you how to get the most out of using the rest of the document. If you are familiar with Forward Work Planning you can use the links to go directly to the section you need. If you are new to Forward Work Planning, it is recommended that you read the entire guide.



## Introduction

The New Zealand Transport Agency (NZTA) retains control of their RAMM master databases. They provide, to their Users, access to portions of the database that are categorised by Security Zones, referred to by NZTA as Network Management Areas.

Your use of the RAMM Forward Work Programme and its facilities varies, depending on whether you are at NZTA and wish to work within this region, or you are a Consultant and wish to work with a Network Management Area.

For this reason throughout this document we refer to Nationally and Locally controlled information. Nationally controlled data and functionality means that it is available to NZTA. Locally controlled data and functionality is available to the Consultant.

The type of access you have to the Forward Work Programme is determined by a flag, held within your security profile, that tells the RAMM Forward Work Programme whether you are working as a Road Controlling Authority (RCA) or a Consultant.

If you are using the RAMM Forward Work Programme in a Local Authority situation you have two choices. Firstly, you can operate in a similar fashion to NZTA, working with the RCA and Consultant functions. Alternatively you can operate with a single version of the RAMM Forward Work Programme which is for a Local Authority and which allows access to both the RCA and Consultant data and functions. This is achieved by setting the flag in your security profile to Local Authority. Local Authority users can access all the functions described.

While using this document, please keep in mind the type of environment you're working in.





## Introduction to RAMM

Road Assessment and Maintenance Management (**RAMM**) is software developed and supported by **RAMM Software Limited**. This software is used by Road Controlling Authorities (RCAs) to manage Road Inventory Assets and Condition for their Network.

**RAMM** is the complete package for Asset maintenance, valuation, assessment, Forward Work Planning as well as inventory-based Asset management. It also includes a range of report and analysis applications which complement the management functions.



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## What is RAMM?

The **RAMM** (Road Assessment and Maintenance Management) software from **RAMM Software Limited** is a comprehensive suite of applications to maintain and manage Road Inventory and Condition data.



The name **RAMM** is used not only for a suite of Road Assessment and Maintenance Management applications but also for the central software application itself.

### The RAMM Suite

The full **RAMM** suite includes **RAMM** (sometimes referred to as **RAMM** for Windows), **RAMM Contractor**, **Pocket RAMM**, **RAMM Manager**, **RAMM Network Manager**, **RAMM SQL**, **Hosting Administration**, **CAR Manager** and **RAMM GIS**.

When **RAMM** was introduced to the industry in the 1980s, it was a green screen application. Later a GUI (graphical user interface) was introduced. This is when it was sometimes called **RAMM** for Windows. As users came to expect more from **RAMM** other applications were added. **RAMM Manager**, **RAMM Network Manager** and **RAMM SQL** were added to facilitate Lookup, Staff Permissions, process, report and Network maintenance, database manipulation and data extraction. When Network Owners and Contractors needed a better system for contract management, **RAMM Contractor** and **Pocket RAMM** were introduced.

Recently the **CAR Manager** has been added to enable NZ Corridor Managers to manage access to their Network. **Hosting Administration** has been designed to give clients greater control over the users who access their Network data. It will be rolled out to our New Zealand clients in the near future. **RAMM GIS** enables easy viewing of **RAMM** data on a map without having to log in to **RAMM**.



## Your RAMM Applications

The full **RAMM** suite includes the following applications. You can access each individual application only if you have the correct Staff Permissions.

### **RAMM (for Windows)**

**RAMM** (for Windows) is the central application of the **RAMM** suite. You access your Inventory, Asset and Condition data for your Network from **RAMM**.

### **RAMM Manager**

**RAMM Manager** is the module in the **RAMM** suite of products which you use to set up Lookups, to maintain Staff Permissions, to run processes such as Status Check, and to run reports.

### **RAMM Contractor**

**RAMM Contractor** is the module of the **RAMM** suite of products which enables Contractors, Network Owners and Consultants to manage Road Asset Maintenance Contracts. In particular, it has been optimised to facilitate the Programming of Network maintenance and the Estimation and Claims process which is integral to Programmed Maintenance Contracts. It also includes the special features for the managing of Contracts for Signs, Street Lights and Traffic Signals maintenance.

### **Pocket RAMM**

**Pocket RAMM** is the module of the **RAMM** suite of products which enables a user to run **RAMM** on a netbook, laptop, tablet or PDA, and to perform Contract, Inventory and Claim management while mobile, in the field. Virtually all of the everyday maintenance ability of **RAMM Contractor** is present in **Pocket RAMM**. Please note that the **Pocket RAMM** application has become so comprehensive that the use of PDAs with **Pocket RAMM** is no longer recommended. PDAs are no longer powerful enough to deliver a positive user experience.

### **RAMM SQL**

**RAMM SQL** is the module of the **RAMM** suite of products which enables a power user to manipulate **RAMM** data using SQL (Structured Query Language). It is a very powerful tool and should be used only by advanced users who have a detailed knowledge of the **RAMM** database.



### RAMM Network Manager

**RAMM Network Manager** is the module in the **RAMM** suite of products which you use to manage the details of your Network and in particular, the Road centre lines. **RAMM Network Manager** is a powerful, flexible and comprehensive Road Network maintenance tool that helps you automate tasks and perform complex Network management actions. For example, you can reverse a Road with a single press of your mouse. When you apply this change **RAMM Network Manager** will update all relevant tables within the database. It also has a graphical display which displays current and historical views of the changes you are making.



### Hosting Administration

The **Hosting Administration** is an online application which enables users to manage access to their Network. It enables Network Administrators to create logins for individual users and allows those individuals to maintain their own passwords. At the time of writing, Hosting Administration is available only to Western Australian LGAs who are clients of <arrb>.



### CAR Manager

**CAR Manager** is the online application used by corridor managers to manage requests by utility operators, or their contractors, to access the Road corridor. Access to the corridor is required to make changes to electricity, gas, telecommunications, water, wastewater and postal infrastructure. At the time of writing, **CAR Manager** is available only to New Zealand RCAs who are clients of [RAMM Software Limited](#).



**RAMM GIS** is the **RAMM** Geospatial Information Service. Using it is a bit like flying over your network and viewing your **RAMM** data, but without ever leaving the office.



Your ability to view and access the complete suite of **RAMM** products will depend on your Staff Permissions. Best practice is to grant you permission to view and access only those applications which you need for your normal duties.

## Your RAMM Database

All your Road Inventory and Condition information in **RAMM** is stored in a central database. Everything you do in **RAMM** is linked to it. All the actions you perform affect it.

### How the Database Is Arranged

The information in the **RAMM** database is stored in tables. There are many of these, one for each aspect of the Road Network. Examples of **RAMM** tables are Surface Structure and Roughness. **RAMM** often combines information from different tables when you are working with it.

Each table holds its data in a combination of rows and columns. Each row in a table can also be called a record. It contains all the details for the particular aspect of the Road section – for example, the Start Displacement, Material, Construction Date and so on of a particular Road section. Each individual item of data is held in its own column.

These columns are related to the fields on **RAMM** screens. Information in a field on a **RAMM** screen resides in a table column. The column contains information about all the Roads, but pertaining only to one aspect of the Road – for example, just the Displacements for the various Roads and Road sections you are looking at.

Road Asset:	Column (Field):			
Surface Structure Table	Road Name	Start Displacement	Pavement Type	Construction Date
Row (Record):	Smith Street	000m	Thin Surfaced Flexible	17/03/2003
	Jones Road	100m	Concrete	12/02/2000



You will see messages and warnings from time to time, some accompanied by detailed, database related information. It is always useful to either print or record this information somewhere and have it at hand when you call [RAMM Software Limited](#) for assistance. See Contact [RAMM Software Limited](#) (on page 26).

## Your Other Software and RAMM

When you are working with [RAMM](#), you will use other software. The following list is not exhaustive. Also, you might not use some of the software listed.

### Internet Browser

Your web or internet browser is the software application you use for accessing, presenting, and navigating information on the World Wide Web. You use it to access [RAMM](#) through the [RAMM Hosting Service](#). Common browsers are Internet Explorer, Firefox, Safari and Chrome. Best results for accessing [RAMM](#) through the [RAMM Hosting Service](#) have been achieved using Internet Explorer.

### Citrix Client

The Citrix client is a third party, remote access application. It allows users to access [RAMM](#) remotely. It enables secure passing of data between a remote server and your local, or client pc or other device. Once the Citrix connection is established, you work with [RAMM](#) as if it were running on your local device.

### Microsoft Excel and Others

You can export **RAMM** data in a format usable in Microsoft Excel, Access and other data manipulation and reporting software.

### Windows Explorer

You use Windows Explorer (sometimes referred to as My Computer) to access files on your computer which you attach to records in **RAMM** on the Multimedia tab of the **RAMM** Detail screens. Similarly you can use the software to download and save **RAMM** multimedia files to your own hard drive.

### dTIMS

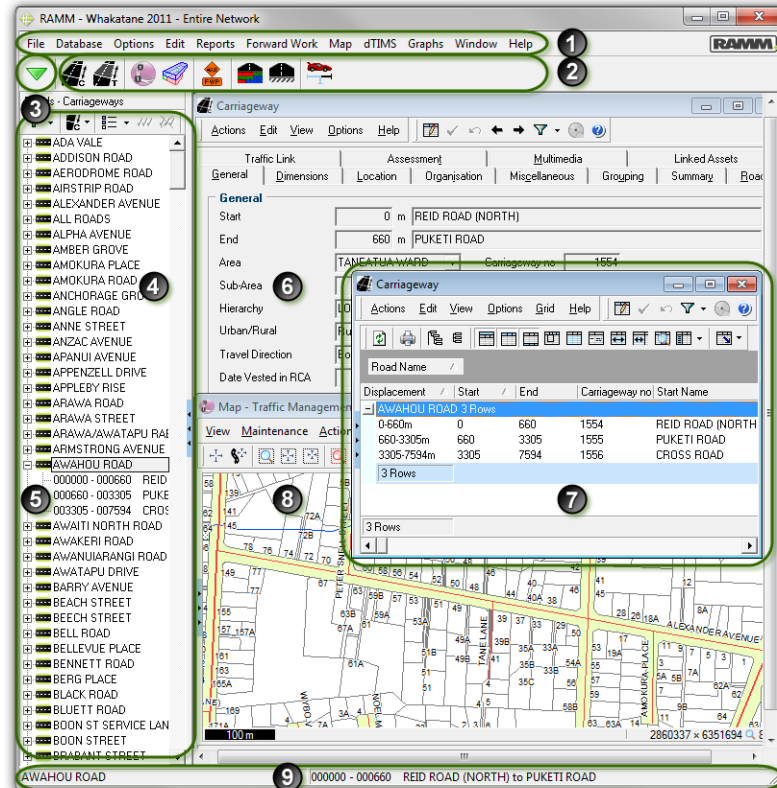
Deighton Total Infrastructure Management System (dTIMS) is a software tool used to model Pavement Deterioration. **RAMM** provides a method of extracting Treatment Length, Maintenance Cost and related data from the Road Network in a format that can be imported into dTIMS. You export information from **RAMM** for use in dTIMS, and then import the results of your analysis back into **RAMM**.


### RAMM Web Service

A web service is software application supporting one software product to talk to another. You use the **RAMM** Web service to enable your CSRs (Customer Service Representatives) to use their customer service software to add a Job into **RAMM Contractor** for, say, a Street Light out, and to monitor the Job progress. Configuring access to the **RAMM Contractor** Web Service is the responsibility of the Network Owner.

## The RAMM Main Screen

The **RAMM** main screen is your portal to your **RAMM** database. You should familiarise yourself with its main items.



No	Item	Comments
1	Menu Bar	This contains the standard drop-down lists with which all Windows users will be familiar.
2	Tool bar	This is a repository for shortcuts to the screens you use most often.
3	Show toolbar menu (screen selection drop-down list)	You press this button for the drop-down list to access all the <b>RAMM</b> Inventory, Condition and other data screens.
4	Roads list panel	This panel lists all the Roads in your Network. You can Filter this list to include only the group of Roads you require.
5	Expanded tree	You press  to expand the tree and reveal the Carriageway Sections for a Road.



6	Detail screen	Detail screens display the details for one <b>RAMM</b> Inventory, Condition or other data record. You edit the item details at the Detail screen.
7	Grid screen	Grid screens display the details for one or more <b>RAMM</b> Inventory, Condition or other data records. You use Grid screens for reporting and other purposes.
8	Map	The <b>Map</b> in <b>RAMM</b> is a wonderful tool for visualising your Network and updating it.
9	Status bar	This is where you look to see useful information about what you are doing.

## RAMM Terminology

In **RAMM**, as with any software application, there are terms which have a meaning specific to the software. When you are working in **RAMM** you will encounter these terms. You should have an understanding of them before you do. Some of these terms are also used in the wider Road industry. The definitions below are specific to **RAMM**.

The following list is a minimum of the terms you need to understand before you start to work with **RAMM**. You can also look at the Glossary at the end of this guide for a more comprehensive list.

### RCA

A Road Controlling Authority (RCA) is the organisation responsible for a particular Road Network. An example of an RCA could be the New Zealand Transport Agency (NZTA) or a TLA (Territorial Local Authority).

### Network

A Network is a collection of Roads managed by a particular Road Controlling Authority (RCA). Each **RAMM** database usually contains all the information for one Network.

## Road

For Local Authorities, a Road denotes a single named Road that is part of their Network. For State Highways, a Road is a segment of the State Highway. Roads may include associated Assets such as Pavement, Top Surface, and Shoulders. Assets such as Signs and Surface Water Channels are associated with a Road.

## Carriageway

Roads in **RAMM** are divided into logical sections named Carriageways. These start and end at easily identifiable Locations such as Intersections and Bridges. You can define your Carriageway Sections to suit your own purposes. For instance you may define them to start and end when the number of Lanes in the Road changes or if the Road changes between Sealed and Unsealed sections. A Carriageway Section starts at one Displacement along the Road and ends at another Displacement. Carriageways define the lengths of Road against which other Assets can be referenced.

## Displacement

Displacement is the distance along a Road measured from the start of the first Carriageway Section of the Road. It is stated in metres.

## Location

Location refers to the collection of details used to position an Asset or Inventory item within a database. The most basic Location information is a combination of Road and Displacement. Location information can also include helpful notes such as nearby landmarks. Point Assets such as Signs have a Location field whose value is the Displacement of the Sign from the start of the Road.

## Asset

An Asset is an item in a Network which has a value. It could be a physical component of a Road, such as its Surface. It could be something real such as a Bridge, a Footpath or a Street Light. Where no table exists in **RAMM** for one of your Asset Types, you set up a User Defined Table (UDT) to manage the Assets.

## Nonasset

Nonassets are items for which screens exist in **RAMM** but which have no monetary value. They are generally something not physically present on the Road Network such as Roughness, Maintenance Cost and Crash. You can set up User Defined Tables (UDTs) to manage Nonassets which do not have their own screens in **RAMM**. Examples could be slips, hazards and certain Condition data.

## Stock Asset

In **RAMM** the three Asset Types, Signs, Street Lights and Traffic Signals are referred to as Stock Asset Types. This is because, unlike the other Asset Types, when Signs, Street Lights and Traffic Signals Assets or components are replaced, a detailed record is kept of the replacements including the Replacement Reason. So you have an itemised list of the current and past Assets. You create Stock UDTs to manage those of your Assets (if any) which do not already exist in **RAMM** and for which you need to keep replacement records.

## Network Inventory

Your Network Inventory is your **RAMM** database records including real items such as a Bridges and Footpaths as well as your Survey and other data such as Crashes and Bylaws. Your Condition data such as Roughness and your report data such as **RAMM** 3D do not form part of your Network Inventory.

## Condition

The term Condition has two related meanings in **RAMM**. In **RAMM Assessment** the Condition of an Asset describes its fitness or readiness for use. Typical **RAMM** and NAMS Conditions are Excellent, Good, Average, Poor and Very Poor. Assessment Condition Weighting is used to determine Risk of Failure and the Consequences of Failure.

There are also Road Conditions which have their own **RAMM** screens. Roughness, High Speed Rutting and Skid Resistance are examples of **RAMM** items used to describe the Condition of your Roads.

You will be able to tell from the context in which it is used, which meaning of the term Condition is intended.

## Assessment

An Assessment is the record of an inspection of an Asset. You use Assessments for a number of reasons including to record the Condition of an Asset or its associated Likelihood and Consequences of Failure (Risks). Rating and HSD are used to Assess Roads.

## Rating

Rating is the process of recording the state of a Road by measuring the extent of the deterioration which has occurred. This includes factors such as the length of Cracking and Potholes. This is sometimes referred to as Condition Rating.

## HSD

High Speed Data (HSD) is the collective name for particular properties and state of a Road as measured by specialised equipment mounted on a vehicle. The properties of the Road include its slope and curvature values. The state of the Road includes its Roughness and Skid Resistance values.

## Treatment Length

A Treatment Length is a section of a Road with consistent performance and purpose. For example, it could have the same Top Surface material and Annual Average Daily Traffic (AADT) count along its length. A Treatment Length may have had similar Treatments applied along its length and is often different from its adjoining sections.

Treatment Lengths may coincide with Carriageway sections, but the same Carriageway section may have more than one Treatment Length. A Treatment Length may span more than one Carriageway section. Treatment Lengths will usually change over time, as conditions change.

## Treatment Selection

A Treatment Selection is a recommended treatment for a Treatment Length to be carried out in the next twelve months. This recommendation can of course be **No Treatment**. Treatment Selections are generated in **RAMM** using the Treatment Selection Algorithm (TSA).

---

## Log in to RAMM

You must log in to **RAMM** before you can use it.

You cannot log in to any of the **RAMM** applications unless you have a login name and a password. Once you have logged in you need appropriate Staff Permissions to carry out tasks related to your role.

Contact the Systems Administrator for the correct Staff Permissions to perform your normal tasks. See the Security chapter of the *Working with RAMM* guide.

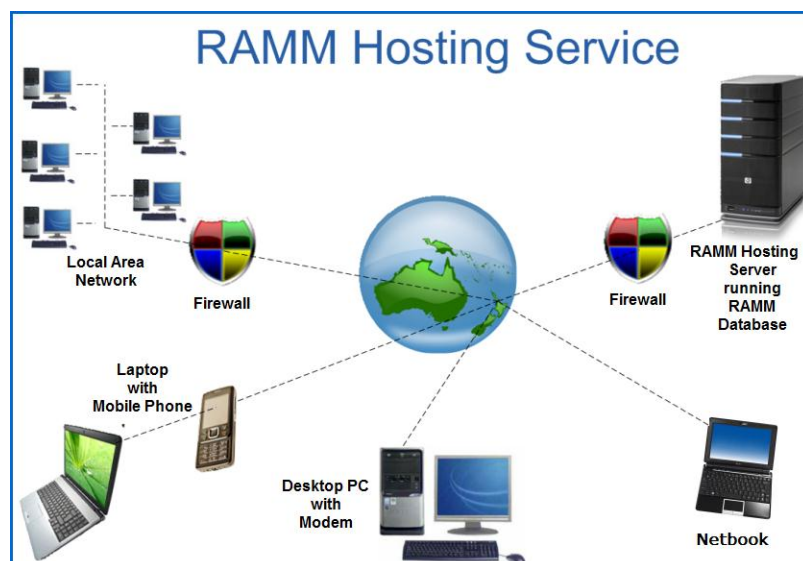
You log in to **RAMM** using the **RAMM Hosting Service**.

## RAMM Hosting Service

The **RAMM Hosting Service** is a service run by **RAMM Software Limited**. It enables you to run **RAMM** across the Internet. It hosts your database and the software on a server at a centralised location. You use your standard internet browser to access the software and work with your data, so you do not need any specialised software. It is very secure.

You use the **RAMM Hosting Service** from anywhere with an internet connection.

The graphic below shows the the options to access **RAMM** using the **RAMM Hosting Service**.



## Logging in to the RAMM Hosting Service

### Introduction

You log in to the **RAMM Hosting Service** to access the **RAMM** applications.

Before you do this you need to have:

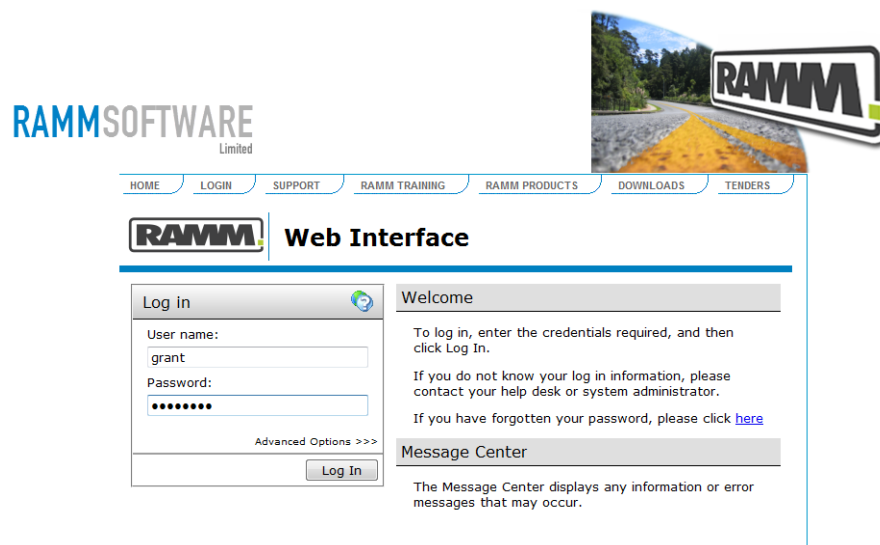
- been granted access with a username and password by **RAMM Software Limited**. To contact **RAMM Software Limited** for assistance, see Contact **RAMM Software Limited** (on page 26).

- Downloaded the MetaFrame Presentation Server Client for 32-bit Windows. You do this by clicking the link on the [RAMM Software Limited](#) website **Log in** page and following the instructions.
- opened your web browser such as Internet Explorer or Mozilla Firefox.

### Menu Path

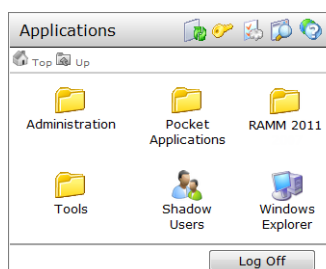
Follow the menu path [ramm.co.nz https://login.ramm.co.nz/](https://login.ramm.co.nz/) to open the **Log in** page.

#### ► To Log in to the RAMM Hosting Service



To do this you follow these steps:

- 1 Type your username and password in the **User name:** and **Password:** fields.
- 2 Press **Log In**.  
The **Applications** panel will open. What you see in the **Applications** panel will depend on your **Security Permissions**.

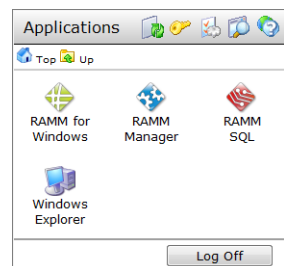


The icons you see in the **Applications** panel will depend on your **Staff Permissions**

- 3 Do you want to use **Pocket RAMM**?

<b>Yes</b>	go to step 4.
<b>No</b>	go to step 6.

- 4 Press the Pocket Applications icon.  
The **Pocket RAMM** applications will become available.
- 5 Go to step 7.
- 6 Press RAMM 2011.  
The Applications panel will open. The software icons will be available.



Again, the icons you see in the Applications panel will depend on your **Staff Permissions**

- 7 Press the icon for the **RAMM** software you want to use.  
The **RAMM** software application will open. If you have access to more than one database, a dialog will open so that you can choose the database which you require.

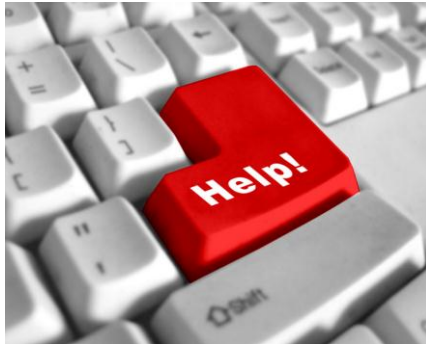


If you use an older version of Mozilla Firefox as your internet browser, a **Warning** telling you that you do not have the MetaFrame Presentation Server Client for 32-bit Windows will display as in the **Log in** page screen shot above. Once you have downloaded the software you can ignore this warning.

## RAMM Help Options



The time will come when you will want to know more about **RAMM** so that you can be both more proficient and efficient. Use the following options to upskill:


- use the Help from within the software. See Context-sensitive Help (on page 20).
- use internet-based Help. See **RAMM** Help on the Internet (on page 22).
- read the **RAMM** documentation. See **RAMM** Guides and Manuals (on page 23).
- discover the **RAMM** tables and columns. See **RAMM** Database Details (on page 25).
- talk to other **RAMM** users. See Help from Other Users (on page 24).
- seek professional help. See Contact **RAMM Software Limited** (on page 26).



## Context-sensitive Help

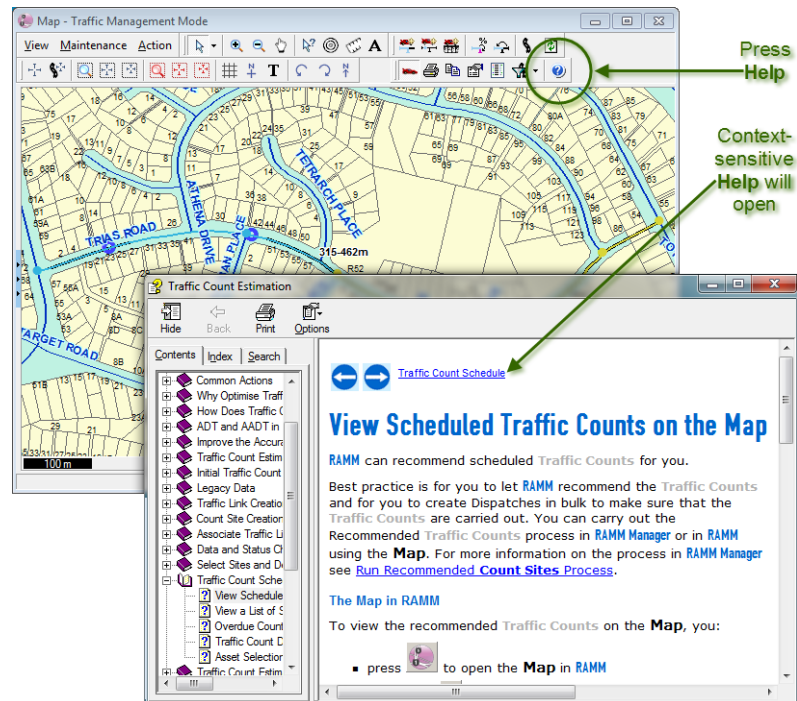
User assistance has been integrated into the **RAMM** applications.

Most screens in **RAMM** have a Help  menu option. You press F1 on your keyboard or press Help  at the top of the screen to open the context-sensitive Help.

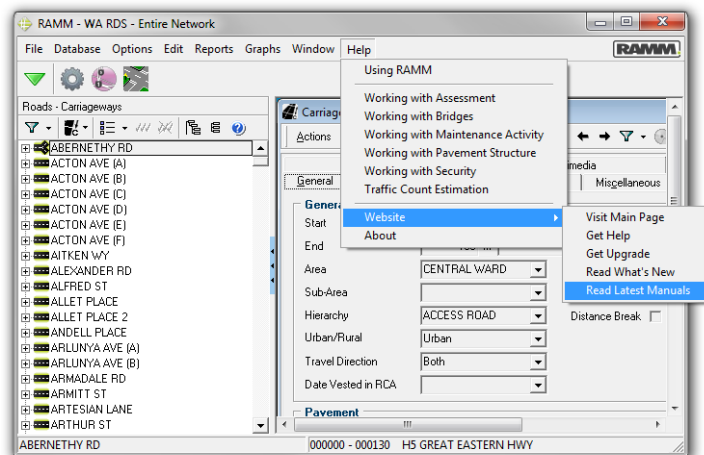
As you can see in the graphic below, when you press Help  at the top of the screen, one page in a .chm file will open. In this example information to enable you to view Scheduled Traffic Counts on the **Map** on **RAMM** is being offered.

If the information on the page does not solve your issues, you can navigate through the .chm file. Use the **Search** and **Index** to speedily locate the information you require.





If you still need further information you can follow the menu path **Help > Website > Read Latest Manuals**. This will take you to a list of the latest **RAMM** manuals and guides where you can search for answers.



## RAMM Help on the Internet

The **RAMM** user guides and manuals are available from the [RAMM Software Limited](http://www.ramm.co.nz) web site (<http://www.ramm.co.nz>). They are generally available in both downloadable .pdf versions and in online Web Help versions.

**Traffic Count Estimation Guide**  
 RAMM Traffic Count Estimation enables you to combine historical traffic information with intelligent Carriageway Section linking to produce a traffic counting and estimation programme which delivers the most Network coverage, the most accurate and up to date ADT Estimates for the minimum number of counts.

**RAMM 2008 Best Practice Guide**  
 This guide is for Contractors and Network Owners who want to use RAMM Contractor and Pocket RAMM to manage the Rooding Network in the most productive and efficient manner.

**Best Practice for Assessment in Pocket RAMM**  
 You can now perform Assessments using from Pocket RAMM.  
 Read this guide to see how.

Use this link to open a Web Help version of the manual

Web Help opens in your browser, is pretty and searchable, but prints only one page at a time

Use this link to download a .pdf file which is easily shared and printed

### Web Help

The Web Help versions of the user guides and manuals are the primary versions you will want to use. They are available from the web site and so are available to you, so long as you have access to the internet.

The Web Help versions open in your internet browser and are very attractive. They are fully searchable. They have both a table of contents and an index for quick access to the information you want.

Their only disadvantages are that you can print only one page at a time and they are not available to you when the internet is not available.

### PDFs

The .pdf versions of the user guides and manuals are useful mainly if you want to print complete documents or large portions of them.

Also, the .pdfs may be useful if you want to keep your own copy of the manual on your desktop or mobile device.

### Google Search

If you type a question into the Google search, this will sometimes return the information you are after. This can be hit or miss.

## RAMM Guides and Manuals

RAMM Software Limited offers useful guides and manuals to enable you to maximise the benefits to you of using RAMM.

### Release Notes

Users who want to know what is in the latest version of RAMM should read:

- **What's New in RAMM 2011 (Web Help)**  
This is a detailed description of the changes and improvements to the RAMM software suite in the 2011 release. In particular, it is the changes to Assets, Data, Finance, Patrols, Reports, Roads and Traffic Count Estimation, which are featured. The Web Help version of this document is fully detailed and fully searchable.

### Basic Help

Users who are new to RAMM need to understand the RAMM basics to maximise their experience with the software. They should read the following RAMM primer as it includes very helpful introductory information:

- **Using RAMM**  
This is a basic help guide introduction to RAMM. It covers the essentials, common tasks, procedures as well as Mapping and Decision Cube functions. There is a comprehensive explanation of the RAMM tool bar controls.

### Advanced RAMM Functions

Users familiar with RAMM and ready for its more advanced functions should read:

- **Best Practice for Assessment in Pocket RAMM**  
This guide shows how you can set up Assessments for Pocket RAMM and record your Assessments in the field. This guide is available online only.
- **Managing RAMM**  
This advanced guide includes sections on Skid Resistance, Treatment Selection and Auditing Survey data. It has not been updated recently. This guide is available online only.
- **RAMM Assessment**  
This guide is for those who manage and record Assessment Inspections of Network Assets, enter the results into RAMM and generate analyses of Condition and Risk.
- **RAMM Asset Valuation**  
This advanced guide to the Asset Valuation process covers valuing a Road Network and calculating Replacement Costs.
- **RAMM Forward Work Programme**  
This guide is for those who use RAMM Forward Work Programme (FWP) - also known as NOMAD. It is an advanced tool for forecasting and analysis.

- **Traffic Count Estimation**  
This guide explains the set up and use of the **RAMM** Traffic Count Estimation System.
- **Working with RAMM**  
This is an advanced help guide for power users of **RAMM**. Use this guide only if you have a good working knowledge of **RAMM**, its Assets, the database structure and key components such as Treatment Lengths. This guide covers: User Defined Assets, Surfaces, **RAMM SQL**, Bridges, Maintenance Activity, Pavement Structure, Pavement Strength and **RAMM** Security.

### RAMM Contractor Guides

Those users who need to know how to use **RAMM Contractor** should read the following manuals:

- **RAMM Best Practice**  
This guide gives step-by-step instructions on how to run a Programmed Maintenance Contract in **RAMM Contractor**. It is available as a .pdf or .xhtml file but not as a printed manual.
- **RAMM Contractor**  
This guide is for those Road Maintenance Contractors and Network Owners who use **RAMM Contractor** software. It covers setting up Contracts, managing Dispatches, generating Claims for work done and reporting on Contract activities.

### Printed Manuals

**RAMM Software Limited** is happy to provide you with printed manuals to which you can refer at your convenience.

There is a small charge for additional copies of the manuals. Printed manuals do not require access to a computer or the Internet and are ideal for browsing, reference or learning about something in depth.

There are a number of guides which are available to **RAMM** users. The following list includes those most used and gives a brief overview of what they cover. For a full list of available guides, see the **RAMM Software Limited** web site Documentation page (<http://www.cjntech.co.nz/index.php?section=55>).

## Help from Other Users

Other users can be a mine of information.

If there are other users in your organisation, you should approach them if they perform the same tasks as you do or if they have been using **RAMM** for longer than you.

They probably know shortcuts, tips and tricks which they can teach you. Don't reinvent the wheel. Talk to someone who knows more than you.

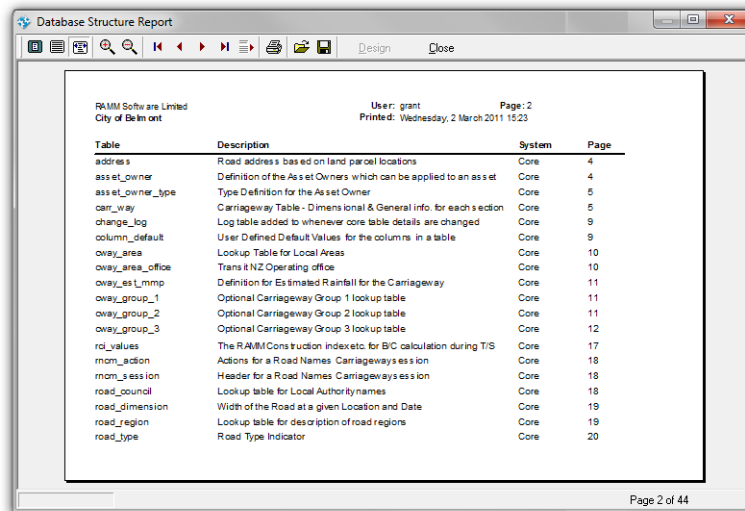


## RAMM Database Details

When you begin to carry out more complex tasks, you will need to know where specific details are stored in the **RAMM** database. These details are available in the Database Structure report.

The Database Structure report is a listing of all tables and columns in the **RAMM** database. It is available from the **RAMM Manager** main menu. You follow the menu path Reports > Database Structure.

You then choose the tables you wish to view and then press **Preview** or **Print** to view or print the report.



The screenshot shows a window titled "Database Structure Report" with a toolbar containing icons for search, navigation, and printing. The window displays a table with the following data:

Table	Description	System	Page
addresses	Road addresses based on land parcel locations	Core	4
asset_owner	Definition of the Asset Owners which can be applied to an asset	Core	4
asset_owner_type	Type Definition for the Asset Owner	Core	5
carriway	Carriageway Table - Dimensional & General info. for each section	Core	5
change_log	Log table added to whenever core table details are changed	Core	9
column_default	User Defined Default Values for the columns in a table	Core	9
oway_area	Lookup Table for Local Areas	Core	10
oway_area_office	Transit NZ Operating office	Core	10
oway_est_mmp	Definition for Estimated Rainfall for the Carriageway	Core	11
oway_group_1	Optional Carriageway Group 1 lookup table	Core	11
oway_group_2	Optional Carriageway Group 2 lookup table	Core	11
oway_group_3	Optional Carriageway Group 3 lookup table	Core	12
rdi_values	The RAMM Construction Index etc. for B/C calculation during T/S	Core	17
rom_action	Actions for a Road Names Carriageway session	Core	18
rom_session	Header for a Road Names Carriageway session	Core	18
road_council	Lookup table for Local Authority names	Core	18
road_dimension	Width of the Road at a given Location and Date	Core	19
road_region	Lookup table for description of road regions	Core	19
road_type	Road Type Indicator	Core	20

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## Contact RAMM Software Limited

### Internet

This is the link to open the [RAMM Software Limited](http://www.ramm.co.nz) web site (<http://www.ramm.co.nz>).

### Email

This is the link to send an email to [RAMM Support](mailto:support@ramm.co.nz) (<mailto:support@ramm.co.nz>).

This is the link to send an email to [RAMM Documentation](mailto:documentation@ramm.co.nz) (<mailto:documentation@ramm.co.nz>).

### Phone

+ 64 9 475 0500

0800 256 832 from within New Zealand only

1800 196 213 from within Australia only

### Fax

+ 64 9 475 0501

### Postal Address

PO Box 302 278  
North Harbour  
Auckland 0751  
New Zealand

### Physical Address

102 Rosedale Road  
Albany  
Auckland  
New Zealand

## Comments and Suggestions

If you have any feedback about this document or about the software itself, please contact [RAMM Software Limited](#) at whichever address above is convenient to you. Your observations and suggestions are welcome. Your feedback is an important element in improving and updating the **RAMM** experience.







## Overview

### In This Chapter

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Objective .....	30
Security Zones.....	30
Overview Process .....	33
Lookup Codes .....	33
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## Background

This guide is an introduction to the RAMM Forward Work Planning tool and is written from the perspective of the New Zealand Transport Agency (NZTA) and their Consultants. See The NZTA Web Site (see Transit New Zealand - <http://www.transit.govt.nz>).

The RAMM Forward Work Programme is designed to store pavement treatment information at project level for a period of up to 20 years.

For example, you could plan to carry out a grade 3/5 two coat reseal on SH 3 RS 269 RP 0.100 - 2.540 in six years time.

---

## Theory

This document is to be used in conjunction with the State Highway Asset Management Manual (SHAMM, SM020). The SHAMM contains the New Zealand Transport Agency (NZTA)'s philosophies and expectations for the management of State Highway Assets.

The manual is also available online ([http://www.transit.govt.nz/technical/view\\_manual.jsp?content\\_type=manual&=edit&primary\\_key=18&action=edit](http://www.transit.govt.nz/technical/view_manual.jsp?content_type=manual&=edit&primary_key=18&action=edit)) at the NZTA website in Adobe Acrobat PDF format.

---

## Objective

The primary purpose of this document is to help Asset Engineers use the RAMM Forward Work Planning software to meet the expectations of the New Zealand Transport Agency (NZTA) as described in the SHAMM.

However Road Controlling Authorities will also find Forward Work Planning useful for effective road asset management.

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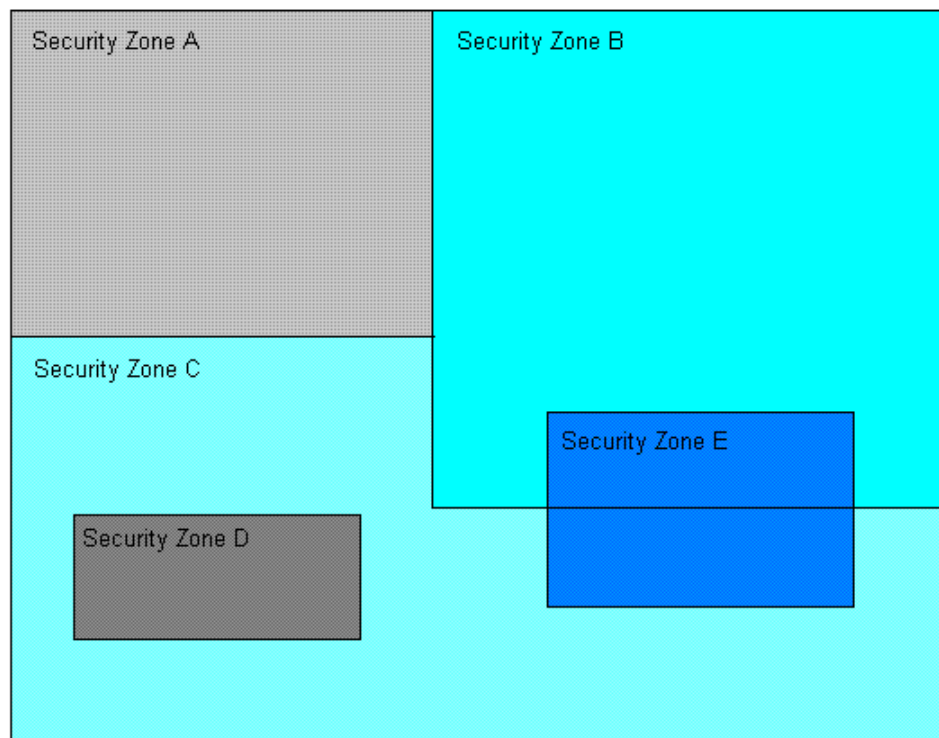
## Security Zones

It is appropriate to have a short discussion on Security Zones and in particular, what they look like and how they are used.

At its most fundamental level, a Security Zone is a way of naming a list of roads from your network. For example, you might create a list of roads from the State Highway network and call it East Waikato Network Management Area.

Of course there is more to it than that. Starting from the RAMM 2008 Release, Security rules for accessing the database are based on the Security Zone. You may have access to one or more Security Zones in the database. You choose which one you want to access and you will be given the permissions assigned to you for that Security Zone.

### The Entire Network



The above diagram is a stylised network being the area enclosed in the outer box. This outer box is considered to be a special Security Zone named the *Entire Network*. The Entire Network has some special characteristics such as it must contain every Road in the database at all times. You will come across other cases where the Entire Network is special as you read through this document.

As you can see in the graphic, the Entire Network has been divided into three mutually exclusive Security Zones named A, B and C. All Security Zones in RAMM must have a parent Security Zone with the exception of the Entire Network. When you are selecting Roads for your security Zone, you can only select those from the parent Security Zone. In the example above, the Security Zones A, B and C have the entire network as their parent. They have been defined as being entirely separate from each other. That is there are no Roads in Security Zone A which are also in B or C.

Since Security Zones A, B and C are mutually exclusive, a user who logs in to Security Zone A can only see asset and condition information from their own Roads. Information on Roads in Security Zones B and C is not available to this user.

When creating Security Zone D, its parent was defined as being Security Zone C. This means that the Roads associated with Security Zone D are a subset of those in Security Zone C. In this case, both Security Zones C and D can see the same asset and condition information, but only for those Roads that they have in common. Security Zone C has more Roads and therefore more information available to it. Users of Security Zones A and B can not see information associated with Security Zone C or its child D.

Security Zone E is a bit different. Its parent is the Entire Network and it has Roads within it which are also in Security Zones B and C. Therefore when you log in to Security Zone E you will see some asset and condition information that users of Security Zone B can see and some information that users of Security Zone C can see. However, you will not see all the information that users of either Security Zones B and C can see.

## Summary

You can create mutually exclusive Security Zones in which users of one can not see asset and Roading information of the other. In a State highway situation, such Security Zones may correspond to the Network Management Areas.

A Security Zone may be the parent of one or more child Security Zones. In the context of the State Highway RAMM database, these might be Network Management Contract Areas within the Network Management Areas.

It is also possible to define Security Zones which have roads in common. When this occurs, users of both of these Security Zones can see the information associated with Roads they have in common but can not see information for Roads not in their own Security Zone.

---

## Overview Process

Below is an overview of the process for development of a robust Forward Work Programme (FWP):

- 1 Read SHAMM
- 2 Manage Treatment Lengths
- 3 Update Treatments
- 4 Update Maintenance Intervention Strategy (MIS) codes
- 5 Perform FWP Analysis and Reporting
- 6 Review steps 1 to 5 as necessary.

---

## Lookup Codes

In addition to the above, the Forward Work Programme also requires the management and maintenance of several lookup codes, these being:

- Funding Groups
- Treatment Groups
- Cost Sets
- Reasons
- Primary Motivators
- Maintenance Intervention Strategies (MIS) Codes
- Safety Intervention Strategies (SIS) Codes.

As with all software applications, it is essential for these lookup codes to be initially populated to various degrees before preparing a Forward Work Programme.

---

## High Level Processes

This document also describes a number of processes that will not involve the Asset Engineer but will nevertheless be useful.

- Unloading and Loading the Forward Work Programme
- Maintenance Allocation Review Group (MARG) Priority Calculation
- End of Year Rollovers



## Understanding Forward Work Planning

This chapter is a brief overview to assist in the understanding of Forward Work Planning.

A more detailed discussion of Forward Work Planning and the processes you should follow both within and external to its implementation in RAMM can be found elsewhere.

Please see SHAMM

([http://www.transit.govt.nz/technical/view\\_manual.jsp?content\\_type=manual&=edit&primary\\_key=18&action=edit](http://www.transit.govt.nz/technical/view_manual.jsp?content_type=manual&=edit&primary_key=18&action=edit)).

### In This Chapter

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Information Requirements .....	36
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## Philosophy of Pavement Maintenance Management

The New Zealand Transport Agency (NZTA) allocates a percentage of its annual budget for general maintenance, reseal and pavement reconstruction works. This is required to maintain an acceptable level of service and to counter the normal deterioration rate.

The amount of expenditure on maintenance works is significant and any small improvement in the way the network is maintained, without detriment to the long term integrity of the pavement, can lead to significant cost savings.

Please see *Chapter 1 - Section 1* of the *SHAMM* for a detailed discussion of the philosophy of pavement maintenance management.

---

## Business Systems Process Overview

Please see *Chapter 1 - Section 2* of the *SHAMM* for an overview of the business systems designed to achieve coordinated and systematic pavement maintenance management at the project level.

The adoption of standardised business systems is important to ensure consistency of output across the network. The business systems establish a uniform framework without constraining the input of suppliers in developing maintenance strategies.

This section of the *SHAMM* covers Investment Levels, the Management Cycle, the Roles of Participants and Business Practices.

---

## Information Requirements

The key to successful asset maintenance management is the collection of sufficient, reliable data about the asset, collating this data into information and interpreting this information to obtain intelligence. To be valid and appropriate the data must be:

- Relevant to the management decisions being made.
- Affordable and cost-effective so that regular collection and updating can be sustained.
- Reliable and adequately accurate for the intended purpose.
- Readily accessible and in a format suitable for those who need to manage and evaluate maintenance practices.

*Chapter 1 - Section 7* of the *SHAMM* discusses this in detail, covering the following topics:



- Use of Data in the Management Process.
- Maintenance Costs.
- Crash Data
- Traffic Data
- Pavement Condition
- Pavement Strength
- Skidding Resistance
- Road Geometry
- Environmental Factors
- Future Developments on Data Collection
- RAMM Inventory Data and RAMM Outputs
- Presentation of a Multi-Year Works Programme
- Trends and Exceptions.

---

## The Intellectual Process

There is a process to ensure that the current data are used to make intelligent decisions in the future. The process includes:

- The collation and interpretation of all available data
- The application of intelligent decision support systems
- Field verification
- Consideration of all resulting information to resolve the application of the right treatments at the right time in compiling the Forward Work Programme.

See *Chapter 1 – Section 8* of the *SHAMM* which covers the following topics in more detail:

- The Process.
- Collation and Interpretation of Data
- Intelligent Decision Support Systems
- Field Assessment and Verification
- Programme Preparation.



## Treatment Length Segmentation

A Treatment Length is a section of a Road which is performing in the same way or has had similar treatment applied to it.

Each Treatment Length should be different from the adjoining sections.

The initial assessment of Treatment Length should be based on the top surface layer.

It should also be based on the changes in chip type or other surfacing treatment.

When a seal length is not performing in a uniform manner, the Treatment Length should be redefined to restore uniformity within the Treatment Length.

### In This Chapter

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Generating Treatment Lengths.....	40
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## Initial Selection

The initial assessment of Treatment Length should be based on the top surface layer.

It should also be based on the changes in chip type or other surfacing treatment.

---

## Refinement

When it becomes obvious that a seal length is not performing in a uniform manner, the Treatment Length shall be redefined to restore uniformity within the Treatment Length. Some maintenance treatments may extend beyond a single Treatment Length and provide a greater length of uniformly performing pavement. Treatment Lengths should be extended or deleted under such circumstances. See Maintaining the Programme (on page 45) for more information.

---

## Prerequisites for Generation

Before generating Treatment Lengths, the RAMM database must contain:

- A Treatment Group that includes a check for all reseals
- At least one Treatment which you're happy to set as the Birthday Seal for all generated Treatment Lengths
- At least one Reason which you are happy to set as the default Reason for the Birthday Seal
- For the chosen Reason, select one Primary Motivator from those available to use as the default Primary Motivator for the Birthday Seal.

If you do not choose to Generate Birthday Seals, the Treatment Length Generation process will not create a Forward Work Programme for you.

---

## Generating Treatment Lengths

In order to make use of the RAMM Forward Work Planning tool you need to have defined Treatment Lengths for your network. Whilst a full discussion of Treatment Length generation is outside the scope of this document it is useful to know the basics in order to create Treatment Lengths from the Top Surface data.

Access to the Treatment Length Generation process is in RAMM Manager from the **Processes > Treatment Lengths > Generate** menu.

**Generate Treatment Lengths**

**Method**

☒ Generate from Major Surface records for sealed pavements  
☐ Generate directly from Carriageways for all pavements

**Description**

Generate treatment lengths following the same algorithm as major surfaces but in addition treatment lengths are split where local area, pavement type, pavement use, urban/rural, lanes or carriageway width differ. Major surfaces are unchanged.

**Options**

☒ Ignore surfaces narrower than  metres  
☒ Ignore surfaces shorter than  metres  
☒ Automatically fill gaps of less than or equal to  metres

**Generate Birthday Seals** ☒

Treatment:   
Reason:   
Primary Motivator:

OK Cancel Help

As indicated in the previous sections, your Treatment Lengths should be generated based on the Top Surface information rather than from Carriageways. However, Forward Work Planning will work with the Treatment Lengths whichever method you choose. If you choose to generate from Top Surface data then you can also choose to ignore seal records if they are too narrow or too short and have RAMM stretch other seals to make them join.

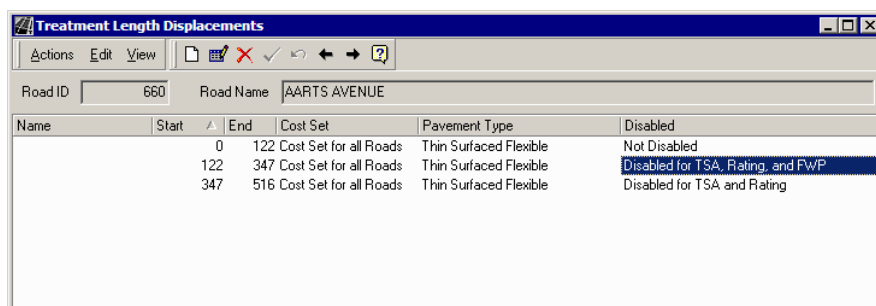
Finally, you can also have RAMM create a default Forward Work Programme for you as it creates Treatment Lengths. If you choose the option to Generate Birthday Seals, RAMM will set up a Current Programme for you and place into it the Treatment, Reason and Primary Motivator that you indicate apply to the Birthday Seal. The Planning Year in which the Birthday Seal takes place is determined from the Age and the Expected Life of the surfaces.

---

## Disabled Treatment Lengths

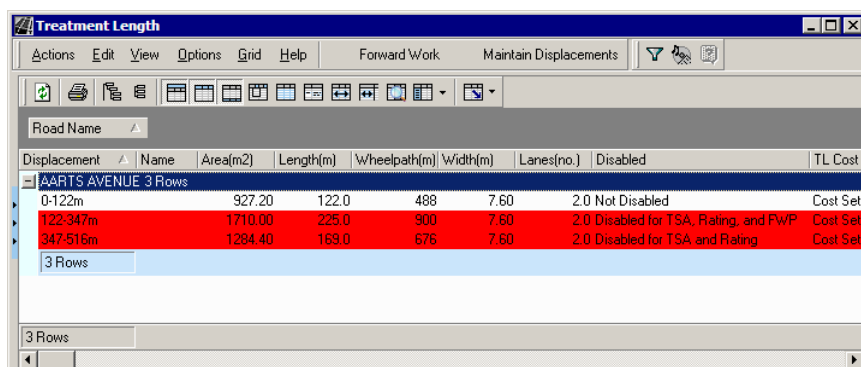
As a consequence of the way RAMM generates Treatment Lengths there are often cases where one Treatment Length is actually a duplicate of another one. This situation most commonly arises when you have common State Highways or Intersections. Alternatively, there may simply be a section of road that you don't want to do any Forward Work Planning on, possibly because of its material (for example cobblestones).

Using the Treatment Length Displacements maintenance window available in RAMM (click on the **Maintain Displacements** button on the Treatment Length Grid/Detail window) you can set any Treatment Length to be disabled.



Name	Start	End	Cost Set	Pavement Type	Disabled
	0	122	Cost Set for all Roads	Thin Surfaced Flexible	Not Disabled
	122	347	Cost Set for all Roads	Thin Surfaced Flexible	Disabled for TSA, Rating, and FWP
	347	516	Cost Set for all Roads	Thin Surfaced Flexible	Disabled for TSA and Rating

Disabled Treatment Lengths can be viewed and are kept up to date by the Treatment Length Summarise process, but are not available in the Forward Work Programme. By default a filter is set for the Treatment Length Grid/Detail to remove Disabled Treatment Lengths. Switch the filter off and you will see something like this:

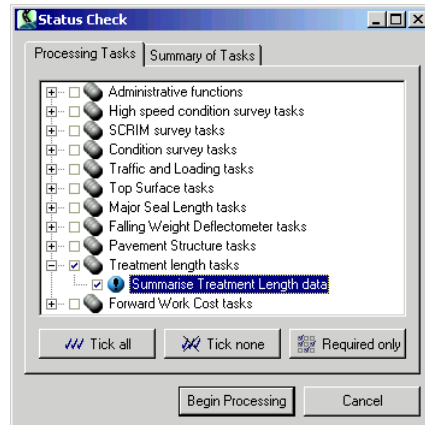


Displacement	Name	Area(m2)	Length(m)	Wheelpath(m)	Width(m)	Lanes(no.)	Disabled	TL Cost
0-122m		927.20	122.0	488	7.60	2.0	Not Disabled	Cost Set
122-347m		1710.00	225.0	900	7.60	2.0	Disabled for TSA, Rating, and FWP	Cost Set
347-516m		1284.40	169.0	676	7.60	2.0	Disabled for TSA and Rating	Cost Set

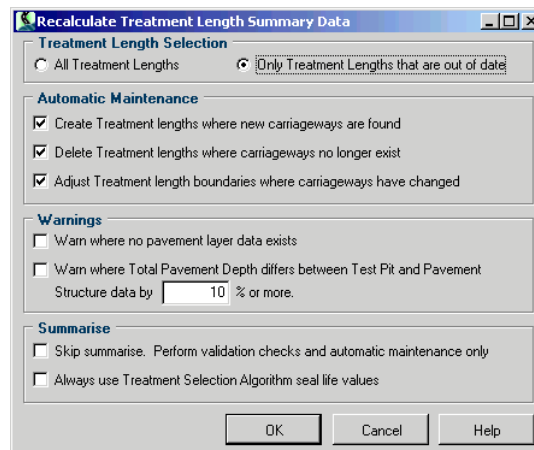
The two Treatment Lengths highlighted in *red* are those that are disabled.

## Status Check Flags

Following any change to the start or end location of Treatment Lengths, the status flag of the road name is set to Changed. This implies that summary data is now invalid. Summary data held against the Treatment Length includes a summary of all rating, condition and traffic data. To correct this status, run the Treatment Length Summarise process. You can access this process from the **Processes > Status Check** option in RAMM Manager.



Open the Treatment Length Tasks and select the Summarise Treatment Length data option. To run the process, click the **Begin Processing** button. The following options dialog will open:



Unless, you have reason to do so, don't change the defaults on this window. Click the **OK** button to begin the summarise process.





## Maintaining the Programme

RAMM Forward Work Planning requires that there be at least one Forward Work Programme defined for each Security Zone in your database. This programme will have a Format of Current Programme. The Current Programme is the one defined as the one that you are using in the field.

The Current Programme associated with the Entire Network Security Zone is known as the Master Current Programme. This is the definitive view of the Forward Work Programme as submitted to the client.

You can create as many Alternative Scenarios as you require by taking a copy of either the Current Programme or one of your other definitions. However, only one Programme per Security Zone can be Current in your database.

At any time you can select one of your Alternative Scenarios and set it to be the Current Programme. It will then replace your original Current Programme.

### In This Chapter

Maintaining Treatments in the Programme .....	46
The Planning Grid .....	46
Using the Planning Window.....	55
Treatment Length Notes .....	63
Programme Status Flags.....	64

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## Maintaining Treatments in the Programme

Maintaining Treatments in the Forward Work Programme involves the review of Treatments attached to each of the twenty-year planning periods for each Treatment Length.

This also affects the attachment of Reasons, Maintenance Intervention Strategies (MIS), Safety Intervention Strategies (SIS), Notes and Priorities.

### Operation

There are two methods for maintaining the Programme. Both are available in RAMM.

You can access the information from the **Treatment Length** Grid by clicking on the **Forward Work** button. This method gives you access to the **Planning window**.


Alternatively you can access the **Planning Grid** from the menu **Forward Work > Planning Grid** or by clicking on the **Forward Work Programme Planning Grid** icon  on the toolbar.

### Maintenance Rules

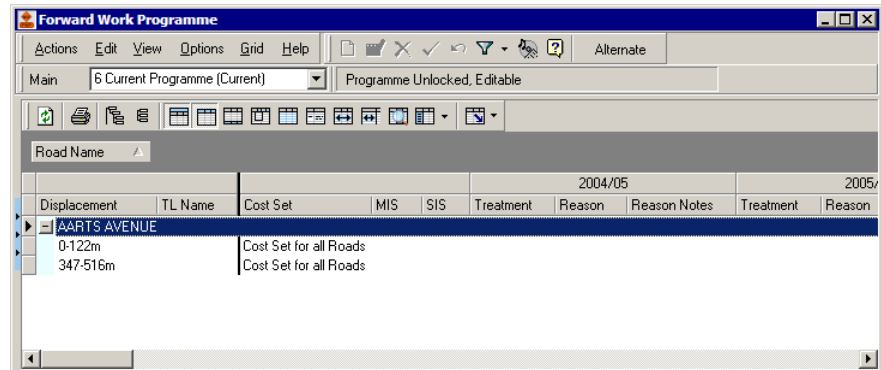
- The default blank cell attached to any of the twenty years for a Treatment Length signifies routine maintenance.
- All treatments in the first three years of this Programme must have a Reason assigned.
- All Treatment Lengths must have a Maintenance Intervention Strategy assigned.
- Any change to treatments assigned to Years 1, 2 or 3 will default the MIS to blank. A new MIS must be attached before the change can be saved.

---

## The Planning Grid

The Forward Work Planning Grid is an environment much like Microsoft Excel, which allows you to maintain the Forward Work Programme. Access to the Planning Grid is via the Forward Work Programme Planning Grid icon  on the main RAMM Toolbar or from the menu **Forward work > Planning Grid**.

Unlike the Planning Screen the Grid is linked directly to the Road Selection panel. Therefore, when you open the Planning Grid you will see the Forward Work Programme that applies for the portion of the network currently selected in the Road Selection panel.



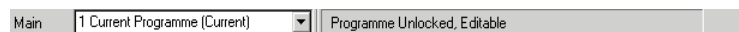
As you enter this window you will be in edit mode. As soon as you make any change the **Save** and **Cancel** buttons on the toolbar will activate.

**NOTE:** You should save at frequent intervals to avoid losing a significant amount of work in the event of a system or hardware crash.

## Selecting a Programme

As a default, the Current Programme will be displayed on this window. However, you can select any scenario to work with by clicking on the Main Programme combo and choosing one from the list.

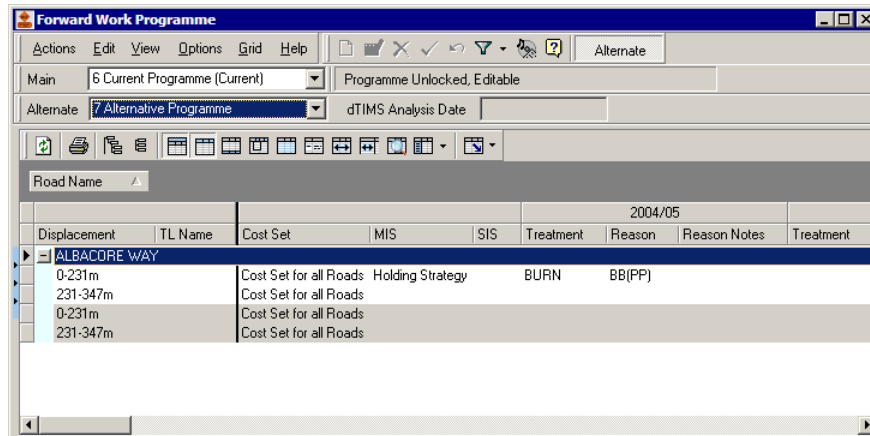
The status message next to the Main Programme combo will tell you whether you are able to maintain the selected Programme.



## Selecting an Alternative Scenario

You can choose to display a second, alternative, Programme in the Planning Grid at the same time. To do this, first click on the **Alternate** button in the toolbar.

This will display the Alternate Programme combo box for you to select the Programme you wish to see.



You will notice that the Planning Grid displays the information from the Alternate Programme, row by row, underneath the Main Programme data. As you can also see this information is greyed out indicating that you can not maintain it.

The Alternate Programme is there to provide you with additional information. If you wish to maintain a Programme you need to select it as the Main Programme.

## The Planning Area

The Planning Area of this window is divided into two areas, divided by a vertical bar. To the left of the bar is information that identifies the Treatment Lengths. That is the Road, Start and End Displacements and the Treatment Length Name. Of these, only the Treatment Length Name can be edited.

To the right of the divider is the Forward Work Plan for the Treatment Length. This is divided into three columns for each Planning Year. Up to 20 Planning Years can be displayed, however, you can use the Layout options to reduce that if you require. To the left of the Planning Years are columns for the Cost Set, the Maintenance Intervention Strategy and the Safety Intervention Strategies. At the extreme right hand side of the Planning Years is one further column that holds the Treatment Length Notes.

Road Name		2001/02			
Displacement	TL Name	Treatment	Reason	Reason Notes	Treatment
[016-0000 (2101)]					
0 - 65m	The Strand	BURN(99)	BB(EF), BL(PP)		BURN, DI, DM
65 - 264m	The Strand				
264 - 305m	The Strand	BURN	CR(EE)		
305 - 350m	The Strand				
350 - 520m	The Strand				

You have three choices when entering data in this Planning Grid. You can open up the expansion for each cell and select your Treatments, Reasons, etc. from the lists presented to you (a text area is displayed in the case of Notes). Alternatively you can type directly in the cell. The cell will accept a valid Treatment or Reason code along with the associated information such as Coverage or Primary Motivator. Be careful if you type directly in the cells. Strict formatting rules need to be followed, otherwise you will be presented with a series of error messages when RAMM assumes that you have entered invalid codes.

Enter one or more Treatments by typing in the codes, separated by a comma and space. For example: *BURN, DI, DM*. If you wish to enter a Coverage or Priority, put them in brackets after the Treatment, separated by a comma. For example: *BURN(50,H)*. If you do not enter the Coverage or Priority, RAMM will assume 100% and Medium respectively.

A similar structure is used for the Reasons and Primary Motivator. For example: *BB(EF), BL(PP)*.

Reason Notes can be typed directly in the cell or you can click on the expansion button (on the right of the cell) and a text box will open.

Treatment Length Notes are more complex to deal with as they are associated with a length of Road that does not necessarily correspond to the Treatment Length. Therefore, the only way to enter a Treatment Length Note is via the expansion dialog (see "Treatment Length Notes" on page 63). The most recent note, applicable to the Treatment Length is displayed. For this reason, Treatment Length Notes are also excluded from the Copy/Paste functions detailed below.

The third method for maintaining the Programme is to make use of the copy and paste functions to either copy information between cells or Treatment Lengths. You could also copy to Excel, maintain the information there and copy it back in to the Planning Grid later.

## Selecting a Treatment

When you open the Treatment expansion you will see a list of all the Treatments that are valid for the Planning Year you are working with.

Treatm...	Description	Coverage(...)	Priority
<input checked="" type="checkbox"/> BURN	Pavement Burning	99	Medium
<input type="checkbox"/> DI	Drainage Improvements		
<input type="checkbox"/> DM	Drainage Maintenance		
<input type="checkbox"/> MILL	Milling and Removal		
<input type="checkbox"/> OGPA	Open Graded Porous Asphalt		
<input type="checkbox"/> OLAYD	> 100mm Granular Overlay		
<input type="checkbox"/> OLAYS	< 100mm Granular Overlay		
<input type="checkbox"/> PROJ	Development Project		
<input type="checkbox"/> RECY	Recycling		
<input type="checkbox"/> RHAR	Rehabilitation		

Select one or more Treatments by clicking in the tick box. Coverage can be entered by clicking in the Coverage column next to the selected Treatment. Similarly, you can choose to set the Priority for the Treatment.

## Selecting a Reason

Opening the Reason expansion displays a list of the Reasons that are associated with the Treatments. You can select one or more Reasons from the list by clicking on the tick box.

Reason	Description	Primary Motivator
<input checked="" type="checkbox"/> BB	Brittle Binder	Engineering Failure
<input type="checkbox"/> BD	Birthday seal	
<input checked="" type="checkbox"/> BL	Bleeding	Pavement Performance
<input type="checkbox"/> CR	Cracking	
<input type="checkbox"/> DT	dTIMS Recommendation	
<input type="checkbox"/> FL	Flush	
<input type="checkbox"/> HC	High Speed Data Condition (gen	
<input type="checkbox"/> ID	Inadequate Drainage	
<input type="checkbox"/> LS	Land Subsidence	

Choose the Primary Motivator for your Reason by clicking in the Primary Motivator column next to the selected Reason.

## Reason Notes

You can choose to type a Reason Note directly into the cell. If you prefer to work with a larger text area then click on the expansion icon that appears on the right of the cell when you click on it.

Road Name					
2020/21					
Displacement	TL Name	Treatment	Reason	Reason Notes	Notes
016-0000 (2101)					
0 - 65m	The Strand				
65 - 264m	The Strand				
264 - 305m	The Strand				
305 - 350m	The Strand				
350 - 520m	The Strand				

## Treatment Length Notes

Treatment Length Notes are displayed in the column at the right hand side of the Planning Grid. If you wish to see more details, then click on the expansion button that is visible when you click on the cell to display the Treatment Length Note (see "Treatment Length Notes" on page 63) dialog.

Road Name				
		2020/21		
Displacement	TL Name	Reason	Reason Notes	Notes
002-0000 (1774)				
0 - 1240m	Church-Timber			Some repairs, moder
1240 - 1400m	Timber Mill Passing Lane			some defects
1400 - 1840m	Timber Mill Passing Lane			some deformation.
1840 - 2100m	Irish to McNulty's			Uphill slope will need
2100 - 2950m	Graham's Br Realignment			Bridge realignment p
2950 - 3186m	Graham's Br Realignment			Realignment and bri
3186 - 3500m	Graham's Br Realignment			Patched, water held
3500 - 4550m	Serpell Road			
4550 - 4794m	Dobson Road			
4794 - 5300m	Pendergrast Rd			
5300 - 6200m	Pendergrast Cr			

## Copy Functions

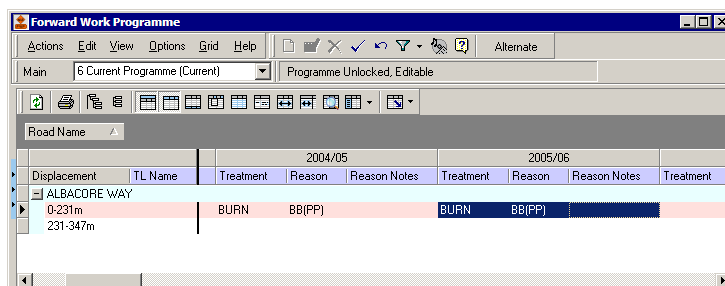
You use standard Windows Clipboard Copy and Paste functions to transfer information into the Planning Grid. Exercise caution. The way information is recorded for a Forward Work Programme and the relationships between the component parts are complex. Here are some copy functions to perform:

- Copy the *Treatment, Reason and Reason Note* from one Planning Year and paste it into one or more others.
- Copy all the displayed information (everything to the *right* of the black bar in the image below) for a single Treatment Length and paste it into one or more other Treatment Lengths.
- Copy the highlighted row, or partial row and paste it into an Excel spreadsheet.
- Copy an entire Reference Station or Road ID and paste it into an Excel spreadsheet.
- Copy the highlighted information from Excel and paste it into the highlighted row in the Planning Grid.

### ► To Copy Planned Treatments, Reasons and Reason Notes from One Year to Another

To copy the Planned Treatments, Reasons and Reason Notes from a given Year simply click on any one of the three cells that make up that Planning Year and press CTRL+C.

To paste this information into another Planning Year, you click on any one of the Cells within that Year and press CTRL+V. The row will be highlighted in a colour as in the image below.



### ► To Copy and Paste a Row

Copying and Pasting a row works in a similar way to that for a Planning Year. Click anywhere on the Treatment Length row that you wish to copy and press CTRL+C. Then click on the destination Treatment Length and press CTRL+V.

## Copying To and Pasting From Excel

You can copy to and paste information from Excel in the Planning Grid using standard Windows Clipboard commands. To copy, first highlight all the cells that you require and press CTRL+C on your keyboard. Paste the information inside Excel in the normal way with CTRL+V. To paste information from Excel into the Forward Work Plan you simply highlight and copy the cells from Excel in the normal way. Click on the first cell (the *topmost cell immediately to the right of the black line of the paste area*) and press CTRL+V.

**WARNING:** Take care that you choose the correct starting position for your paste when bringing in data from Excel. The Planning Grid does not validate the information as you paste it in and will not care if you put Treatments in Reasons, or Reasons in Reason Notes, etc. It will, however, validate the data when you hit the **Save** button, resulting in a large number of errors if you haven't pasted the data correctly.

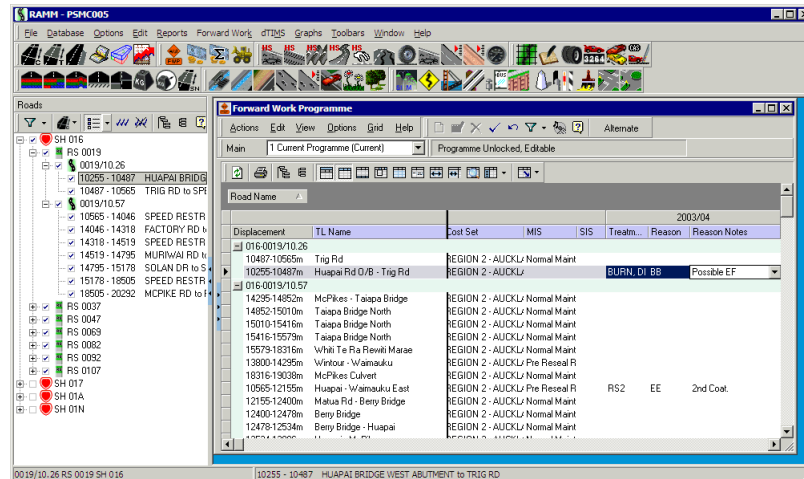
### ► Copying and Pasting To Excel

- 1 Select the Reference Station in the **Road Selection** panel.


**NOTE:** To copy an entire Reference Station, click the **Toggle Multi-Select Mode** button to enable multi-select mode.

- 2 Highlight the information you want to copy and press CTRL+C.



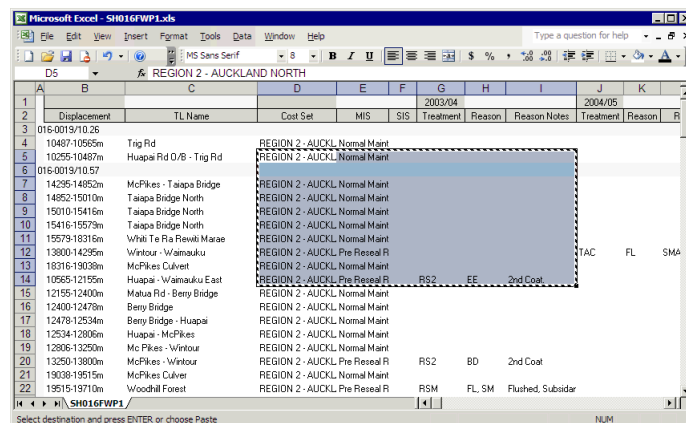


- 3 Open Excel and press CTRL+V to paste the information into a file or cells.

**NOTE:** To export the entire Reference Station as an Excel spreadsheet, click the **Export File** button  from the Grid toolbar, select **Excel** and choose a file name and location to save to.

### ► Copying and Pasting From Excel

- 1 In Excel, highlight the section you want to paste back into the Forward Work Programme and copy it to the Windows clipboard (CTRL+C).



- 2 Select the start point to paste the clipboard contents into the Forward Work Programme (see the cell indicated by the mouse arrow below). Press CTRL+V.

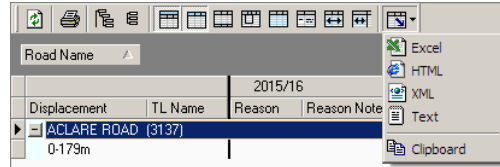
Displacement	TL Name	Cost Set	MIS	SIS	Treatm...	Reason	Reason Notes
016-0019/10.26	Trig Rd	REGION 2 - AUCKL					
10487-10565m	Trig Rd	REGION 2 - AUCKL					
10255-10487m	Huapai Rd O/B - Trig Rd	REGION 2 - AUCKL					
016-0019/10.57	McPikes - Taiapa Bridge	REGION 2 - AUCKL					
14295-14852m	Taiapa Bridge North	REGION 2 - AUCKL					
14852-15010m	Taiapa Bridge North	REGION 2 - AUCKL					
15010-15416m	Taiapa Bridge North	REGION 2 - AUCKL					
15416-15579m	Taiapa Bridge North	REGION 2 - AUCKL					
15579-18316m	Whiti Te Ra Rewiti Marae	REGION 2 - AUCKL					
13800-14295m	Wintour - Waimauku	REGION 2 - AUCKL					
18316-19038m	McPikes Culvert	REGION 2 - AUCKL					
10565-12155m	Huapai - Waimauku East	REGION 2 - AUCKL			RS2	EE	2nd Coat.
12155-12400m	Matua Rd - Berry Bridge	REGION 2 - AUCKL					
12400-12478m	Berry Bridge	REGION 2 - AUCKL					
12478-12534m	Berry Bridge - Huapai	REGION 2 - AUCKL					

RAMM now pastes the data you copied in Excel at the selected point and shows the new data highlighted in a different colour.

Displacement	TL Name	Cost Set	MIS	SIS	Treatm...	Reason	Reason Notes
016-0019/10.26	Trig Rd	REGION 2 - AUCKL					
10487-10565m	Trig Rd	REGION 2 - AUCKL					
10255-10487m	Huapai Rd O/B - Trig Rd	REGION 2 - AUCKL					
016-0019/10.57	McPikes - Taiapa Bridge	REGION 2 - AUCKL					
14295-14852m	Taiapa Bridge North	REGION 2 - AUCKL					
14852-15010m	Taiapa Bridge North	REGION 2 - AUCKL					
15010-15416m	Taiapa Bridge North	REGION 2 - AUCKL					
15416-15579m	Taiapa Bridge North	REGION 2 - AUCKL					
15579-18316m	Whiti Te Ra Rewiti Marae	REGION 2 - AUCKL					
13800-14295m	Wintour - Waimauku	REGION 2 - AUCKL					
18316-19038m	McPikes Culvert	REGION 2 - AUCKL					
10565-12155m	Huapai - Waimauku East	REGION 2 - AUCKL			RS2	EE	2ND COA' 2nd Coat.
12155-12400m	Matua Rd - Berry Bridge	REGION 2 - AUCKL					
12400-12478m	Berry Bridge	REGION 2 - AUCKL					
12478-12534m	Berry Bridge - Huapai	REGION 2 - AUCKL					

## Grid Toolbar

The Planning Grid makes use of the standard Grid tool in RAMM. For more information on using the Grid toolbar please see the *Using RAMM Manual*.



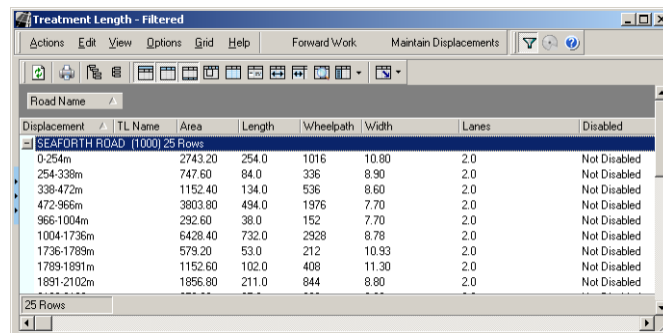
## Validation Rules

The rules for validation of Treatments, Reasons, Primary Motivators and Maintenance Intervention Strategies are the same for the Planning Grid as they are for the Planning window (described below).

## Using the Planning Window

The Planning window allows you to access the Forward Work Programme for a preselected range of Treatment Lengths.

To access this window, first open the Treatment Length Grid or Detail from the main RAMM Toolbar.



Once you have selected which Treatment Lengths you wish to maintain click on the **Forward Work** button. This will then display the Planning window.

Forward Work Programme - Filtered

Actions Edit View Options Help

Alternate Review Mode Treatment Shortcuts Bulk Review

Main: 1 Current Programme (Current) Programme Unlocked, Editable

2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
BURN(S)	BURN(D)						TAC		
BB.BL	0						RC		

General Intervention Strategies Year 2 MARG Weightings

**Treatment Length**

Name: The Strand

Displ.: 0 - 65m

Cost Set: REGION 2 - AUCKLAND

**Status**

☐ Please revise  
☐ OK  
☒ Proposed  
☐ Changed  
☐ dTIMS

**Notes**

**Review Notes**

All the Treatment Lengths that are currently available in the Grid are maintainable from this window whether or not you have called it from the Treatment Length Grid or Detail.

We look at the main part of the window in more detail in Planning Area (on page 59) below. First, let's have a look at the contents of each of the tabs at the bottom of the window.

## General

General Intervention Strategies Year 2 MARG Weightings

**Treatment Length**

Name: 016-0000

Displ.: 0 - 65m

Cost Set: REGION 2 - AUCKLAND

**Status**

☐ Please revise  
☐ OK  
☒ Proposed  
☐ Changed  
☐ dTIMS

**Notes**

**Review Notes**

This tab allows you access to the general information about the Treatment Length and the Programme as it relates to that Treatment Length.

## Treatment Length

The Treatment Length Group displays the Name, Displacements and Cost Set that apply to the currently selected Treatment Length. You can change the Name of the Treatment Length. You can select a new Cost Set for it from those available. However, you can not maintain Treatment Length Displacements from this window. Treatment Length displacements can only be maintained by clicking on the **Maintain Displacements** button from the Treatment Length Grid or Detail.

## Status

The Status displayed on this window gives you information on where the Treatments for this Treatment Length are in the Planning Cycle.

A Status of **Please revise** has come from the Review Process and indicates that the New Zealand Transport Agency (NZTA) would like the Consultant to look at this proposed work again and come up with a new recommendation.

A Status of **Ok** indicates that the Planned Treatments for this Treatment Length have been reviewed and approved by NZTA.

A Status of **Proposed** indicates that this is the recommendation for this Treatment Length, but that it has not yet been approved by NZTA.

A Status of **Changed** indicates that the Consultant has made a change to the Treatments, Reasons, Primary Motivators, MIS, or SIS for this Treatment Length.

A Status of **dTIMS** indicates that the Plan you are looking at has been loaded into a Forward Work Programme from a dTIMS Analysis.

## Notes

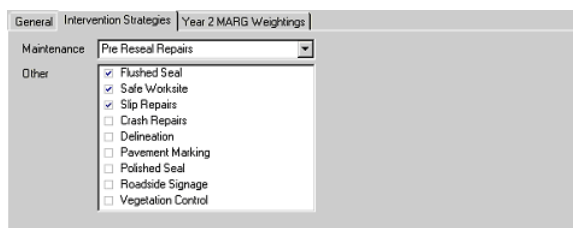
This area of the window displays the Treatment Length level notes that are associated with the selected Forward Work Programme.

See the section on Treatment Length Notes (on page 63) for more information.

## Review Notes

Review Notes are entered by the New Zealand Transport Agency (NZTA) during the Review process. See the section on Reviewing the Forward Work Programme (on page 106) for more information.

## Intervention Strategies



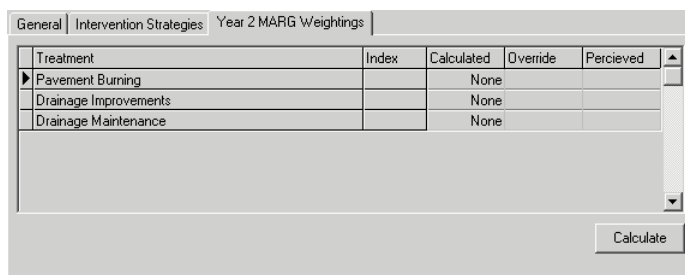
All Treatment Lengths must have a Maintenance Intervention Strategy selected. Select one from those defined for the Security Zone appropriate for the current Treatment Length.

If you make any change to the Treatments in Years 1, 2 or 3, then RAMM will automatically remove the MIS associated with the Treatment Length. This is intended to ensure that you consider which strategy is most appropriate. You must select a new MIS for the Treatment Length before you can save the changes.

See the section on Maintaining Maintenance Intervention Strategies (see "Maintaining Maintenance Intervention Strategies (MIS)" on page 70) for more information on adding and updating these codes.

Other strategies are defined as Safety Intervention Strategy codes. You can choose one or more from the list of Safety Intervention Strategies. You are not required to choose one, so you may leave them deselected if you wish.

## Year 2 MARG Weightings



Treatment	Index	Calculated	Override	Percieved
Pavement Burning		None		
Drainage Improvements		None		
Drainage Maintenance		None		

This is one of the places where you can see and calculate MARG values for the Treatments in Year 2 of the Programme.

See Project Ranking (on page 175) for more information.

## Planning Area

**Forward Work Programme - Filtered**

Actions Edit View Options Help

Alternate Review Mode Treatment Shortcuts Bulk Review

Main: 1 Current Programme (Current) Programme Unlocked, Editable

Alternate: 1 Current Programme (Current) dTIMS Analysis Date

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Main	BURN(93) BURN.DI	BB.BL 0						TAC	RC	
Alternate	BURN(93) BURN.DI	BB.BL 0						TAC	RC	

General Intervention Strategies Year 2 MARG Weightings

**Treatment Length**

Name: 016-0000

Displ: 0 - 65m

Cost Set: REGION 2 - AUCKLAND

**Status**

Alternate

☐ Please revise ☐ Please revise

☐ Ok ☐ Ok

☐ Proposed ☐ Proposed

☐ Changed ☐ Changed

☐ dTIMS ☐ dTIMS

**Notes**

Edit

**Review Notes**

### Main Programme

The Main Programme is the one that you wish to maintain. Typically this will be the Current Programme and the field will default to this.

### Main Programme Lock/Edit Status

This field, which is next to the Main Programme field, tells you whether you can edit the Main Programme that you selected. There are two pieces of information here. The first tells you if the Programme is Locked or Unlocked. The second says whether you have the authority to edit the Programme even if it is Unlocked.

A Programme may be Locked because someone has made a decision to protect it from change. If the Programme has been unloaded it will also be Locked to stop you from changing it until it is returned.

Whether you can edit Unlocked Programmes depends on what Security Permissions you have and on whether you are looking at the Programme in the New Zealand Transport Agency (NZTA) main database or a Consultant's database for the Network Management Area. NZTA may not modify the Current Programme, although they may create a copy and edit it.

### Alternate Programme

Click on the **Alternate** button to expand the Planning window in order to display an Alternative Scenario.

The Alternative Programme is displayed for reference only. You can not make any changes to this Programme. If you wish to update an Alternative Scenario you must select it as the Main Programme.

### dTIMS Analysis Date

If you have chosen to display a Programme derived from dTIMS data loaded into Forward Work Planning, then this field will show you the date when the original dTIMS Analysis was carried out. This might have a bearing on the relevance of this data today.

### Main Programme Planning Year Cells

There are cells in the Main Programme part of the window for each year of the 20-year Planning Period. The first ten years are shown when the window is displayed. You can scroll to the right hand side to see the rest. The first year on the left hand side is considered to be Year 1, the current year.

Each cell consists of two rows. The top row is used to display the code for those Treatments that you have selected for that year. You select Treatments by displaying the Treatment Toolbar (see "The Treatment Toolbar" on page 61) and ticking the ones that you require. Within the cell the codes are displayed separated by a comma. If you have specified coverage for the Treatment, this is also displayed, in brackets, next to the Treatment code. You can choose up to five Treatments as you require. Typically, this would be one or two. Display the Treatment Toolbar to clearly see which Treatments have been applied in that year.

For each Treatment that you tick you also have the ability to define the coverage that you require and to indicate your estimate of the Priority that should be accorded to the Treatment.

The second row of the Programme Cell is used to display the Reason and Primary Motivator for the Treatment(s). Once again the Reasons are displayed as codes with commas separating them. The Primary Motivator for a Reason is displayed in brackets next to the Reason to which it applies. Reasons are selected by displaying the Reason tab on the Treatment Toolbar and ticking the Reason(s) that you require. For each Reason in the first four years, you select you need to choose the Primary Motivator which best fits with the circumstances.



In the Forward Work Planning window shown above you can see that some cells have a small icon next to the Reason. This indicates that a Reason Note has been entered for that Planning Year. These notes can only be seen by displaying the Treatment Toolbar. You can enter Reason Notes at any time. However, some Reasons require you to enter an explanatory note.

If a cell is empty, that is you have not expressly assigned a Treatment to that Year, RAMM takes this to mean that Routine Maintenance will be taking place on that Treatment Length in that Year.

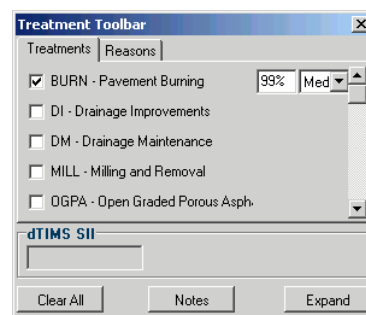
### Alternate Programme Planning Year Cells

The Planning Years for the Alternate Programme are kept in alignment with those from the Main Programme. At no time can you edit the information displayed and this portion of the window is grey to indicate that it is read only.

## The Treatment Toolbar

Click on the **Treatment** button or double click on any treatment cell in the Twenty-Year Programme to open the Treatment Toolbar. Once displayed this toolbar will remain visible and float above the other windows until closed.

The toolbar will initially open up to be displayed as follows:



If you want to see the Notes you can click on the **Notes** button. If you wish to see all the information at once, also click on the **Expand** button.

The Treatment Toolbar keeps track of which cell on the Planning window you are currently in and displays the Treatments, Reasons and Reason Notes that you have entered. Treatments and Reasons will be listed alphabetically unless they were already selected for the cell before you clicked on it. Preselected Treatments and Reasons will always appear at the top of the window.

### Programme Period

All Treatments are assigned to a Programme Period. That is they are only available for entry into predefined years of the Forward Work Programme. The Treatment Toolbar takes this into account. Treatments that are not available for the highlighted Planning Year **do not** appear on the Toolbar.

The End of Year Rollover process advances all information from each Planning Year forward one year. This often causes a Treatment that was valid for one Year to be moved into a Year where it is not allowed. Forward Work Planning does not remove this Treatment, it is up to the Consultant to review the Plan and propose a valid alternative. Therefore, until it is removed, it will appear in the cell and on the Toolbar.

Invalid Treatments that appear on the Treatment Toolbar can be unticked and ticked only so long as the Toolbar remains open and you do not move from the highlighted Planning Year. Once you untick the invalid Treatment and either close the Toolbar or move to work with another Planning Year, the invalid Treatment will disappear and you will not be able to add it again to that Year.

### Treatment Coverage and Priority

On the Treatment tab of the Toolbar you can see two additional pieces of information that are displayed to the right of any selected Treatment. They are the Percentage Coverage and the Treatment Priority.

The Treatment Priority can be used to indicate how important it is that the selected Treatment be carried out. This flag allows you to give your considered opinion independently of any automatic calculation of Treatment Priority, such as MARG. By default, the Priority is set to Medium, but you can change this to either High or Low.

### Reason Primary Motivator


On the Reason tab of the Treatment Toolbar you can see an additional column of information for each of the selected Reasons. This is the Primary Motivator for the Reason. Not all Reasons require a Primary Motivator, but for those that do you will see a field here from which a listing of the Primary Motivators is available to you.

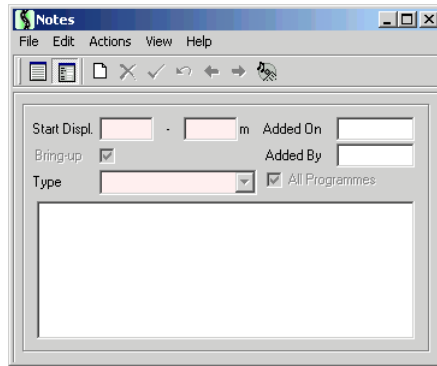
All Reasons that are assigned to Treatments in the first three Planning Years must have a Primary Motivator assigned to them, if they have been defined.

---

## Treatment Length Notes

Treatment Length Notes are accessible from both the Forward Work Planning window and Grid. They are intended as a way of associating general or review information with a length of the network rather than with a specific Treatment/Reason combination.

Clicking on the **Edit** or **New** button in the Notes area on the Planning window displays the following dialog. A similar dialog is launched by clicking the  button in the **Notes** cell on the Planning Grid.



The reason for entering and maintaining these notes in a separate window is because they are associated with a length of the network. You can associate the note with any start and end displacement without recourse to the start and end of the Treatment Length.

Multiple notes can be entered for a single Treatment Length.

When displayed on the Planning window or grid, the notes will be visible against the Treatment Length they apply to.

In addition to defining the Start and End Displacement for the note you need to select one of the Note Types that you have defined.

Enter the note in the text box at the bottom of the window. The *Added On* and *Added By* information will be automatically populated for you.

In addition you can choose to have this note available for all the Forward Work Programmes in your database by ticking the All Programmes check box. Should you either ignore or deliberately untick this tickbox then this note will only be displayed for the Programme you were working on when you entered it.

Finally, you can also choose to have this note displayed prominently when you move onto the Treatment Length. Do this by clicking on the Bring-up tick box.

---

## Programme Status Flags

Any change to the Treatments assigned to a Treatment Length, the reasons, MIS, or SIS will alter the status of the Treatment Length to *Changed*. This status change is used in the approval process of the programme. The following rules apply:

- A consultant does not have access to the Approve/Reject status change.
- The New Zealand Transport Agency (NZTA) staff have no access to change treatments (thus effecting a status change to *Changed*).





## Maintenance Interventions

Maintenance works should normally be considered for implementation once the maintenance intervention level has been reached or exceeded.

For a full discussion on the application of maintenance interventions, the highway environment, and intervention levels see *Chapter 1 – Section 5* of the *SHAMM*.





## Maintenance Intervention Strategies

A Maintenance Intervention Strategy is a detailed statement of the type of maintenance activity that should be targeted to the Treatment Lengths identified in the Forward Work Programme.

It is the principle method of conveying the appropriate activities to all parties involved in the maintenance of an asset.

Maintenance Intervention Strategies are designed to ensure the optimum use of maintenance funding by ensuring that routine activities are appropriate given the programmed treatments.

A more detailed discussion of Maintenance Intervention Strategies, covering objectives, alignment with policy, and typical strategies is found in *Chapter 1 – Section 6* of the *SHAMM*.

### In This Chapter

Maintenance Intervention Strategy Codes .....	70
MIS Costs.....	70
Maintaining Maintenance Intervention Strategies (MIS) .....	70
Maintaining the Master List.....	70
Selecting MIS Definitions for the Security Zone.....	72

## Maintenance Intervention Strategy Codes

The Maintenance Intervention Strategies used may vary between Security Zones.

However, the maintenance of these codes is done nationally.

Please contact the New Zealand Transport Agency (NZTA) to arrange for new codes to be added.

These codes may then be delivered to Consultants using the Manage Records function or via the National Table Export and Import. See National Tables Export (on page 170) and National Tables Import (on page 172).

---

## MIS Costs

All Maintenance Intervention Strategies have costs associated with them.

Even if the MIS Codes are common between the Security Zones, it is unlikely that the costs will be common.

It is the responsibility of the Consultant, therefore, to define the MIS costs for their region.

---

## Maintaining Maintenance Intervention Strategies (MIS)

In order to keep consistency among MIS definitions, there is one master list of Maintenance Intervention Strategies defined for your database.

To maintain this list, you first need to log in to the Entire Network Security Zone.

If you are logged in to the Security Zone corresponding to your Network Management Area, then you can select MIS definitions from this Master List to be available to you when managing your Forward Work Programme.

---

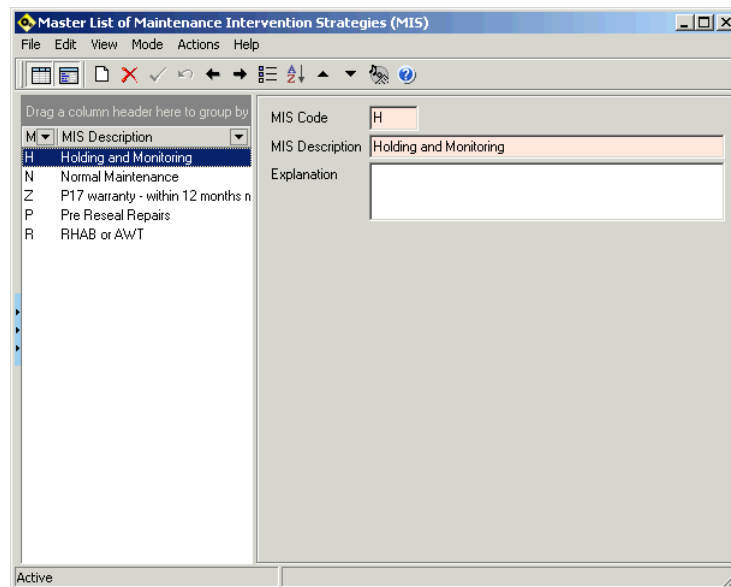
## Maintaining the Master List

The MIS Master List is maintained in RAMM Manager when logged in to the Entire Network Security Zone.

Follow the menu path **Projects > Forward Work > Maintenance Intervention Strategies**.

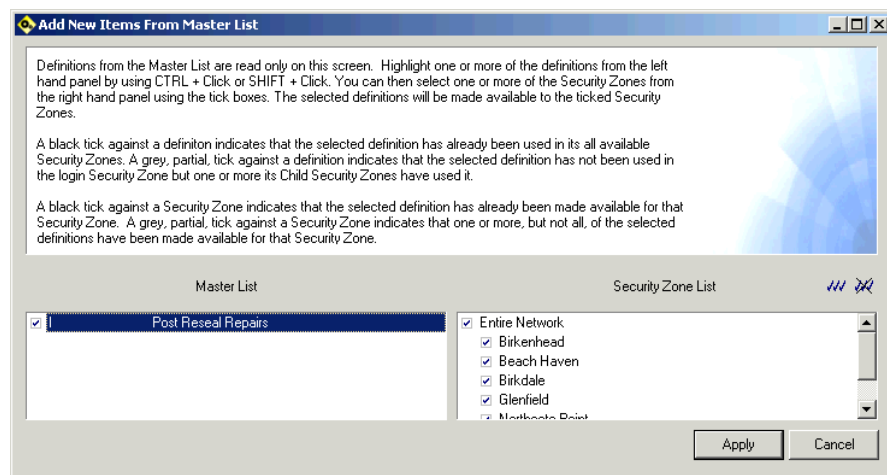
When the screen opens it displays the MIS definitions selected for use in this Security Zone.

To maintain this master list follow the menu path **Mode > Master List**.



When you insert a new MIS Definition you will be asked if you want it to also be available for use within the Security Zone.

If you say Yes, a dialog box will open listing all the active Security Zones in your database.



Select the Security Zones to which your new Definition is to be made available. You then press the Apply button.

When you remove one of your definitions, it will be removed from the Security Zone lists as well.

However, if this code is currently in use in any of your Forward Work Programmes, you will not be allowed to delete it.

Instead, the MIS Definition will be flagged as not being Active.

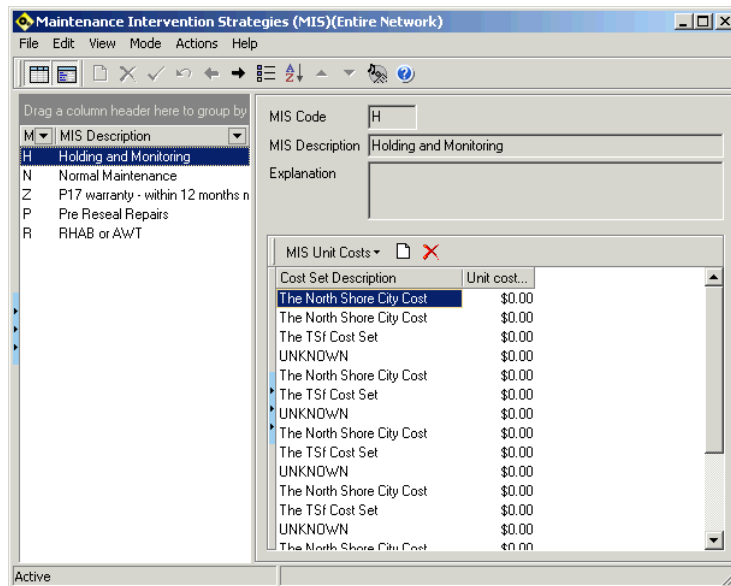
## Selecting MIS Definitions for the Security Zone


You select, from the Master List of Maintenance Intervention Strategies, Definitions which are to be available for your Security Zone.

Log in to your Security Zones using RAMM Manager.

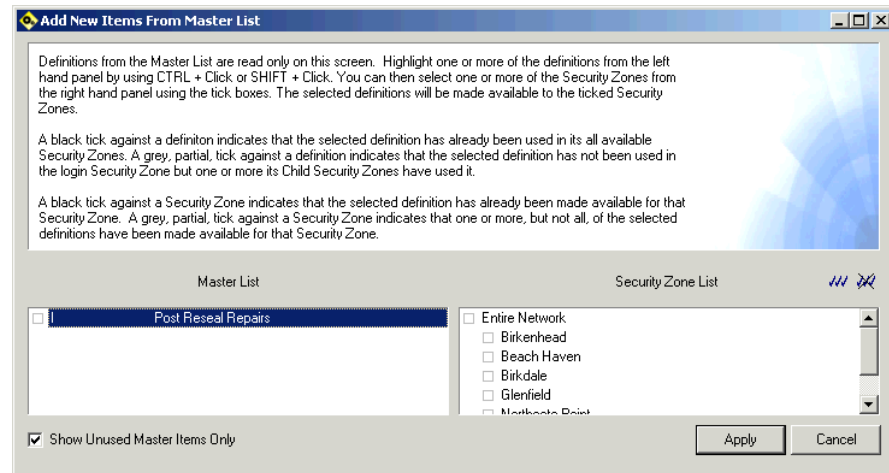
Follow the menu path **Projects > Forward Work > Maintenance Intervention Strategies**.

A screen will open with a list of all MIS Definitions currently available for use within your Security Zone.



If you wish to add or remove items from the list then press the **Manage Records** button .

The Manage Records dialog box will open.



By default, this screen lists the codes which you have not selected for your Security Zone.

Select the required MIS Definitions and then press the **Apply** button to add them to your Security Zone List.

If you wish to remove a particular definition from your Security Zone list, you clear the check box adjacent to the definition and then press the **Apply** button.

Within the Security Zone you will need to define Unit MIS Costs in \$/m<sup>2</sup> for each of the Cost Sets you have available to you.

This can be done by editing the records in this table to the right of the screen.



# Safety Management Strategies

See *Chapter 2 – Sections 1 to 5* of the *SHAMM* for a discussion of the processes necessary to ensure the safety of the State Highway network. The process is determined by the preparation, implementation, and review of the Safety Management Strategy.

## In This Chapter

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Maintaining Safety Intervention Strategies.....76

Maintaining the Master List.....76

Selecting SIS Definitions for the Security Zone .....77

## Safety Intervention Strategies

A Safety Intervention Strategy (SIS) forms part of the Safety Management Strategy as defined in *Chapter 2 – Section 6* of the *SHAMM*.

This document discusses the definition and purpose of a SIS, intervention levels, considerations and a hazard register.

## Maintaining Safety Intervention Strategies

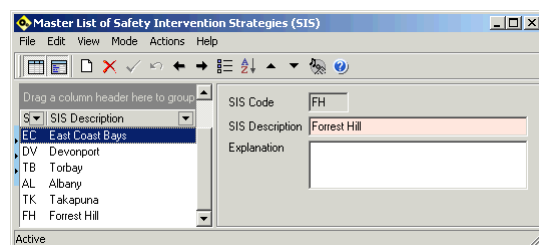
To keep definitions consistent across all users of the Forward Work Programme, there is one Master List of Safety Intervention Strategies (SISs) defined for your database.

To maintain this list you first log in to the Entire Network Security Zone.

If you are logged in to the Security Zone corresponding to your Network Management Area, then you can select SIS definitions from the Master List to be available while managing your Forward Work Programme.

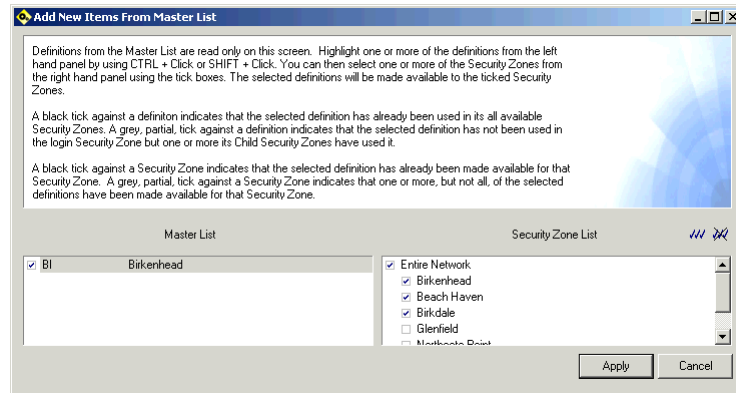
## Maintaining the Master List

The Security Intervention Strategy (SIS) Master List is maintained in RAMM Manager when logged in to the Entire Network Security Zone. You follow the menu path **Projects > Forward Work > Safety Intervention Strategies**. A screen will open with the SIS Definitions selected for use in this Security Zone displayed. You follow the menu path **Mode > Master List** to maintain the Master List, .



When you insert a new SIS Definition, you will be asked if you want it to be made available for use within the Security Zone. If you select Yes, a dialog box will open with a list of all the active Security Zones in your database.



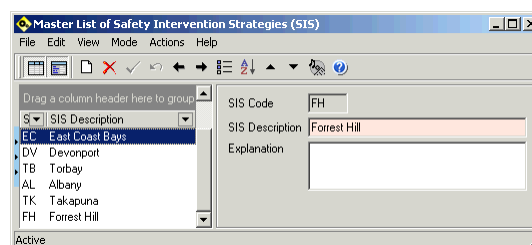



You select the check boxes for the Security Zones for which your Definition is to be made available and clear those to which it is not to be made available. You then press the Apply button.

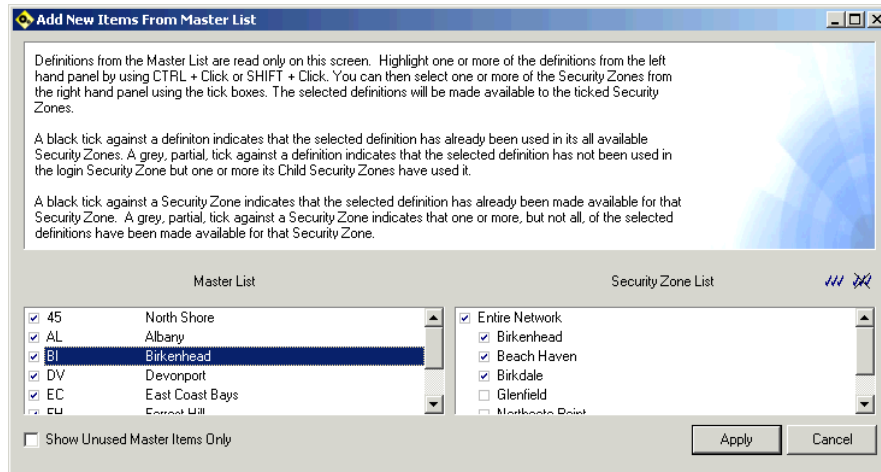
When you remove one of your definitions, it will be removed from the Security Zone as well. However, if the code is currently in use in any of your Forward Work Programmes, you will not be allowed to delete it. Instead, the SIS Definition will be flagged as not being active.

## Selecting SIS Definitions for the Security Zone

To make Security Intervention Strategy (SIS) Definitions available for your Security Zone, you select the ones you want from the Master List. You log in to your Security Zone using RAMM Manager. You follow the menu path **Projects > Forward Work > Safety Intervention Strategies**. A screen will open listing the SIS Definitions currently available for use within your Security Zone.



If you wish to add or remove items from this list you press the Manage Records button . The Manage Records dialog box will open.



This screen will display only those SIS Definitions which have not been selected for your Security Zone. Select those SIS Definitions which you want to add and press the Apply button to add them to your Security Zone.

# Forward Work Planning Analysis and Reporting

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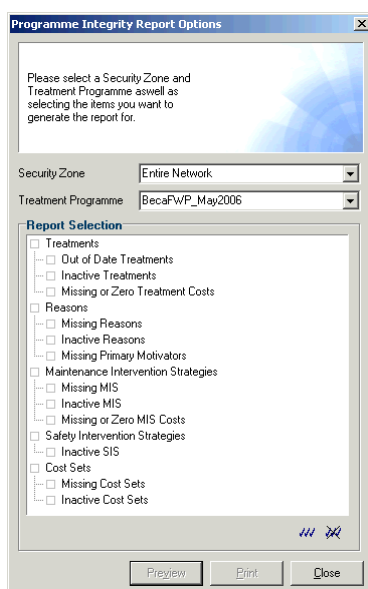
## After an End of Year Rollover

If you have just set up a Forward Work Programme or it is not the beginning of a new Financial Year and you have not run the End of Year Rollover process you can ignore the rest of this section. However, if you have just performed an End of Year Rollover or are working with a Database which has recently been rolled over, then you should perform some checks on the integrity of your Forward Work Programmes. RAMM has a range of reports for this purpose. You access them from RAMM Manager and run them consecutively. Follow the menu path **Reports > Forward Work > Integrity**. See End of Year Rollover (on page 162).

---

## Programme Integrity Reports Options

When you run the Programme Integrity reports, the first screen you see is the Options dialog box.



You choose, from the list of your login and child Security Zones, the Zone on which you want to report. Then, from within the Security Zone, you select the Forward Work Programmes you want to analyse. Finally, you select one or more of the Programme Integrity reports listed in the lower section of the screen.

## Out-of-date Treatments Report

Treatments are defined as being valid for certain periods within the twenty year Forward Work Programme. When End of Year Rollover takes place Treatments that were, for example, valid for Year 4 have been moved into Year 3. However, some of the Treatments may not be valid for use in Year 3. This report locates these Treatments in the Programme. You can then correct the records.

CJM Technologies Limited

RUMM1

User: rum1

Page: 1

Printed: Wednesday, 10 April 2013 10:03

Out-of-date FWP Treatments

Treatment Length Name	Road Name	Start_m(m)	End_m(m)	Year	Treatment
Summit No 10	D16-D032	30 46	5530	200607	Resurfacing -New Road 5013
Gibbs Cattle It	D16-D032	71 40	8538	201011	Resurfacing
Rickard Rd to Jettie	D17-D016	5532	5730	200607	Resurfacing -Grade 2 Chip
Polys Quarry Rd/Sa	D17-D016	11 187	11974	200607	Resurfacing -Grade 2 Chip
Road Bank Rd/Sa and Off Ramp	D17-D035/16 D04-0FF	0	195	200304	Resurfacing

RUMM Manager: 2000/01/04 5:00:00

End of Report

Source: (Outdated Treatments)

## Inactive Treatments Report

The Master List of Forward Work Programme Treatments is defined and maintained by the New Zealand Transport Agency (NZTA). From time to time, NZTA will decide that a Treatment is no longer to be used and will flag it as inactive. However, this does not automatically remove this treatment from any Forward Work Programme where it is currently being used. This report locates the Inactive Treatments. You can then replace them.

CUM Technologies Limited RAMM 1		Inactive FWP Treatments				User: nigel Printed: Tuesday, 9 April 2002 14:26
Treatment Length Name	Road Name	Start_m(m)	End_m(m)	Year	Treatment	
Maha Rd - Berry Bridge	016-0019/0.45	12155	12478	2003/04	Second Coat/Seal, grade 3	
Wintouri - Vito Market	016-0019/0.45	13183	14295	2003/04	Reseal - raked in 35, two chip states	
Minimex - SW of Park Street	016-0037	7607	9150	2002/03	Second Coat/Seal, grade 3	
West St - Salsbery Rd	016-0047	2350	2770	2004/05	Second Coat/Seal, grade 3	
Healy Rd	016-0047	10418	10721	2001/02	Second Coat/Seal, grade 3	
Kai Kaka Road	016-0047	10338	11015	2002/03	Second Coat/Seal, grade 3	
North Creek (SW)	016-0047	12400	13050	2002/03	Second Coat/Seal, grade 3	
McLachlan Rd - Oval Rd	016-0047	15141	16150	2002/03	Void Filling	
North of Rake 1011 Rd	016-0047	19297	19542	2002/03	Second Coat/Seal, grade 3	
South of Wataung Stream Bridge	016-0047	19542	19660	2002/03	Second Coat/Seal, grade 3	
Kokawill Bridge SW	016-0069	1637	2469	2001/02	Second Coat/Seal, grade 3	
Kokawill Bridge NW - Tui Island	016-0069	2611	2880	2003/04	Second Coat/Seal, grade 3	
Ogle Rd	016-0082	4081	4436	2002/03	Second Coat/Seal, grade 3	
Ryan Rd	016-0082	9630	6091	2002/03	Second Coat/Seal, grade 3	
J. Palmer Rd - Little Rd	016-0082	7427	7780	2002/03	Second Coat/Seal, grade 3	
Little Rd	016-0082	7780	8675	2002/03	Second Coat/Seal, grade 3	
Tauko Rd	016-0082	8675	9486	2002/03	Second Coat/Seal, grade 3	
Sim m. R. Jukito	016-0082	9590	6184	2003/04	Second Coat/Seal, grade 3	
Tauko - Waiare line	016-0082	745	1490	2004/05	Second Coat/Seal, grade 3	
Waiare line Rd	016-0082	2089	2700	2002/03	Second Coat/Seal, grade 3	
Ingelton Rd	016-0082	6184	7140	2003/04	Second Coat/Seal, grade 3	
Kai Kaka Road SW	017-0016	3153	3020	2002/03	Second Coat/Seal, grade 3	
Horehoe Bend Road	017-0016	3920	3715	2004/05	Second Coat/Seal, grade 3	
Rikarua Rd - Green Hill	017-0016	5730	6388	2002/03	Second Coat/Seal, grade 3	
Pine Point - Mawenee	018-0037	1362	1502	2002/03	Second Coat/Seal, grade 3	
Tu Hana Bridges NW	018-0037	4281	4595	2003/04	Second Coat/Seal, grade 3	
Tu Hana Rail ERP 4.818	018-0037	4595	4818	2001/02	Second Coat/Seal, grade 3	
ERP 4.818 Bridges	018-0037/04.81	4818	5034	2001/02	Second Coat/Seal, grade 3	
SW of Rake 1011	018-0245/01.27	2360	3214	2003/04	Second Coat/Seal, grade 3	
Wataung Stream	018-0245/01.27	8081	8346	2003/04	Second Coat/Seal, grade 3	
Old Depot	018-0264	1302	1380	2002/03	Reseal - raked in 24, two chip states	
Old Depot	018-0264	1380	1705	2002/03	Second Coat/Seal, grade 3	
Mawenee Bridge	020-0010/02.54-0	2540	3197	2004/05	Structural repair with concrete	
Pakata North Creek	022-0000/03.70	9294	10053	2002/03	Second Coat/Seal, grade 3	

RAMM Manager 2002/04/05 14:26

End of Report

Source: C:\ramm\FWP\Treatments\Report

## Missing or Zero Treatment Cost Report

Each treatment has an individual cost defined for it.

This enables estimation of the financial cost of the Planned Treatment in your Forward Work Programme.

The default value for a treatment is \$0.00/m<sup>2</sup>.

It is possible that by design or error, that a particular Treatment may not have been given a financial cost at all.

This report identifies those Treatments which have no real cost assigned to them.

You can then assign a real cost.

C/JN Technologies Limited  
Wellington

User: Grant Page: 1  
Printed: Friday, 22 June 2007 3:10:02 p.m.

## Programme Integrity Report - Missing or Zero Treatment Costs

Security Zone: Entire Network

Treatment Programme: Current Programme

Cost Set Code	Description	Error Message	Treatment Code	Description
1	The TSF Cost Set	No Cost Defined	BURN	Pavement Burning
1	The TSF Cost Set	No Cost Defined	CS	Crack seal - all chip grades
1	The TSF Cost Set	No Cost Defined	DI	Drainage Improvement
1	The TSF Cost Set	No Cost Defined	DM	Drainage maintenance (restore
1	The TSF Cost Set	No Cost Defined	MILL	Milling and removal (eg rounda
1	The TSF Cost Set	No Cost Defined	OGPA	Open Graded Porous Asphalt
1	The TSF Cost Set	Zero Cost Defined	OLAY	Overlay
1	The TSF Cost Set	No Cost Defined	PROJ	Development Project (eg realig
1	The TSF Cost Set	No Cost Defined	RECY	Recycling (cold milling)
1	The TSF Cost Set	No Cost Defined	RHAB	Rehabilitation
1	The TSF Cost Set	No Cost Defined	RMUP	Recycling (milling) with make
1	The TSF Cost Set	No Cost Defined	RS	Reseal (chip unknown)
1	The TSF Cost Set	No Cost Defined	RS2	Reseal - single chip, grade 2
1	The TSF Cost Set	No Cost Defined	RS24	Reseal - raked in 24, two chi
1	The TSF Cost Set	No Cost Defined	RS3	Reseal - single chip, grade 3
1	The TSF Cost Set	No Cost Defined	RS35	Reseal - raked in 35, two chi
1	The TSF Cost Set	No Cost Defined	RS4	Reseal - single chip, grade 4
1	The TSF Cost Set	No Cost Defined	RS42	Reseal Grade 4 then 2
1	The TSF Cost Set	No Cost Defined	RS5	Reseal - single chip, grade 5
1	The TSF Cost Set	No Cost Defined	RS52	Reseal Grade 5 then 2
1	The TSF Cost Set	No Cost Defined	RS53	Reseal Grade 5 then 3
1	The TSF Cost Set	No Cost Defined	SC2	Second Coat Seals, grade 2
1	The TSF Cost Set	No Cost Defined	SC3	Second Coat Seals, grade 3
1	The TSF Cost Set	No Cost Defined	SC4	Second Coat Seals, grade 4
1	The TSF Cost Set	No Cost Defined	SC5	Second Coat Seals, grade 5
1	The TSF Cost Set	No Cost Defined	SCAC	Shape correction asphaltic con
1	The TSF Cost Set	No Cost Defined	SG	Shoulder grading (remove turf
1	The TSF Cost Set	No Cost Defined	SS24	Sandwich Seal

## Missing Reasons Report

When you are planning Treatments in the first three years of your Forward Work Programme you are required to indicate the Reason why this work is required. Further out into the Programme, it is not mandatory to record a Reason for your proposed Treatment beyond the fourth year. So when you run the End of Year Rollover process, it is possible that a Treatment which has no Reason associated with it will move into that section of the Programme which requires one.

This report locates such Treatments in your Programme. You can then assign a Reason.

C:\N Technologies Limited  
Wellington

User: Grant Page: 5  
Printed: Friday, 22 June 2007 3:10:02 p.m.

## Programme Integrity Report - Missing Reasons

Security Zone: Entire Network

Treatment Programme: Current Programme

Treatment Length ID	Name	Road Name	Start_m(m)	End_m(m)	Year	Treatment Code	Description
27	Kilewao St - College Rd	AKORANGA DRIVE	512	512	2006/07	TAC	Thin asphaltic concrete
5096	#11 - Kilewao St	AKORANGA DRIVE	405	405	2006/07	TAC	Thin asphaltic concrete
5795	Northcote Rd - #11	AKORANGA DRIVE	74	74	2006/07	TAC	Thin asphaltic concrete
49	#480 - Millenium Village	ALBANY HIGHWAY	5221	5221	2008/09	TAC	Thin asphaltic concrete
58	#32 - #42	ALEXANDER AVENUE	354	354	2007/08	RS	Reseal (chip unknown)
61	Beach Rd - Nelson Ave	ALFRED STREET	0	0	2006/07	RS	Reseal (chip unknown)
64	Lake Road - Empire St	ALLENBY AVENUE	146	146	2007/08	RS	Reseal (chip unknown)
67	Shakespeare Rd - Nile Rd TAKA	ALMA ROAD	6	6	2006/07	RS	Reseal (chip unknown)
85	Manuka Rd - Cul de sac	ANNE MCLEAN DRIVE	5	5	2007/08	RS	Reseal (chip unknown)
95	Auburn Rd - Barnys Pt Rd	ANZAC STREET	655	655	2007/08	PROJ	Development Project (eg realig
118	Archers Rd #20 - End Near Int	ARCHERS ROAD (LLA)	0	0	2007/08	TAC	Thin asphaltic concrete
151	Constellation Drv - End of Seal	ATLAS PLACE	0	0	2007/08	TAC	Thin asphaltic concrete
159	Tiri Road - Cul de sac	AUDREY ROAD	7	7	2006/07	RS	Reseal (chip unknown)
5847	Cliff Road	AULD STREET	576	576	2008/09	TAC	Thin asphaltic concrete
191	TL Split - Unsworth Drv	BARBADOS DRIVE	475	475	2007/08	RS	Reseal (chip unknown)
4999	Leight Tce - Cul de sac	BAYVIEW ROAD - BAYVIEW	226	226	2006/07	RS	Reseal (chip unknown)
239	Channel View Rd - Taka/ECB bdy	BEACH ROAD	2875	2875	2007/08	TAC	Thin asphaltic concrete
246	Gulf View Rd - #502	BEACH ROAD	4913	4913	2006/07	TAC	Thin asphaltic concrete
247	#502 - Montgomery Av	BEACH ROAD	5212	5212	2008/09	TAC	Thin asphaltic concrete
253	Bute Rd - #829	BEACH ROAD	7862	7862	2006/07	TAC	Thin asphaltic concrete
259	Ellangowan Rd - Bridge	BEACH ROAD	9532	9532	2007/08	TAC	Thin asphaltic concrete
260	Bridge - Rock Isle Rd	BEACH ROAD	9704	9704	2008/09	TAC	Thin asphaltic concrete
5097	Area Bdy - #430	BEACH ROAD	4164	4164	2006/07	TAC	Thin asphaltic concrete
5113	Anzac Rd - Bute Rd	BEACH ROAD	7561	7561	2007/08	TAC	Thin asphaltic concrete
273	Anzac St - Pedestrian Crossing	BEACHFRONT LANE	9	9	2008/09	TAC	Thin asphaltic concrete
274	Pedestrian Crossing - Bayview Rd	BEACHFRONT LANE	142	142	2008/09	TAC	Thin asphaltic concrete
277	Tainui Rd - End	BEACONSFIELD STREET	10	10	2006/07	RS	Reseal (chip unknown)
5848	Rbt Mokoia	BIRKENHEAD AVENUE	0	0	2007/08	TAC	Thin asphaltic concrete

## Inactive Reasons Report

The Master List of Forward Work Treatment Reasons is defined and Maintained by the New Zealand Transport Agency (NZTA). From time to time, NZTA will decide that a Reason is no longer to be used and will flag it as Inactive. However, this does not automatically remove this Reason from any Forward Work Programme where it is currently being used.

This report locates the inactive Reasons. You can then replace them.



C:\N Technologies Limited

Wellington

User: Grant

Printed: Friday, 22 June 2007 3:10:03 p.m.

Page: 16

Programme Integrity Report - Inactive Reasons

Security Zone: Entire Network

Treatment Programme: Current Programme

Treatment Length ID	Name	Road Name	Start_m(m)	End_m(m)	Year	Reason Code	Description
89	Beach Rd - Glen Rd	ANZAC ROAD	340	340	2007/08	MC	Maintenance Costs
90	Glen Rd - Clyde Road RIA	ANZAC ROAD	123	123	2007/08	MC	Maintenance Costs
210	Beach Rd	BAYSIDE DRIVE	0	0	2007/08	MC	Maintenance Costs
295	Queen St - Richmond Ave	BELLE VUE AVENUE	6	6	2006/07	MC	Maintenance Costs
296	Richmond Ave - Waimana Ave	BELLE VUE AVENUE	180	180	2006/07	MC	Maintenance Costs
301	Chartwell Ave - Battle Pl	BENTLEY AVENUE	5	5	2006/07	MC	Maintenance Costs
416	Clyde Road - Glen Rd	BUTE ROAD	32	32	2008/09	MC	Maintenance Costs
5850	Wolsley	DALLINGHOE CRESCENT	300	300	2006/07	MC	Maintenance Costs
5793	TL Split - Ashfield Rd	DIANA DRIVE	503	503	2008/09	MC	Maintenance Costs
5841	TL Split - TL Split	DIANA DRIVE	295	295	2008/09	MC	Maintenance Costs
5878	TL Split - TL Split	DIANA DRIVE	100	100	2008/09	MC	Maintenance Costs
729	Oaktree Ave - Mulgan Way	EAST COAST ROAD	7450	7450	2006/07	MC	Maintenance Costs
919	Eskdale Rd - Cul de sac	FUCHSIA PLACE	0	0	2007/08	MC	Maintenance Costs
1084	Start of Seal - Greville Rd	HAURAKI CRESCENT	0	0	2007/08	MC	Maintenance Costs
1117	Glenvar Rd - Cul de sac	HIGHWOOD GROVE	20	20	2006/07	MC	Maintenance Costs
1175	Eamoch Ave - Minnehaha Ave	HURSTMERE ROAD	797	797	2008/09	MC	Maintenance Costs
1176	Minnehaha Ave - Kitchener Ave	HURSTMERE ROAD	1213	1213	2006/07	MC	Maintenance Costs
1316	Pupuke Road Roundabout	KILLARNEY STREET	1124	1124	2007/08	MC	Maintenance Costs
1317	Pupuke Rd - Taharoto Rd	KILLARNEY STREET	1177	1177	2007/08	MC	Maintenance Costs
5785	Campbell Rd - Pupuke Rd	KILLARNEY STREET	750	750	2008/09	MC	Maintenance Costs
1340	Akoranga Rd - Cul de sac	KITEWAO STREET	6	6	2006/07	MC	Maintenance Costs
1488	Jellicoe Rd - Beach Rd	LYONS AVENUE	715	715	2006/07	MC	Maintenance Costs
5122	TL Split - Mayfair Cres	MAXWELTON DRIVE	530	530	2007/08	MC	Maintenance Costs
5828	#64 - TL Split	MAXWELTON DRIVE	364	364	2007/08	MC	Maintenance Costs
1978	Wairau Rd - Silverfield Rd	PORANA ROAD	22	22	2006/07	MC	Maintenance Costs
2300	High St - Shoal Bay Rd	ST LEONARDS ROAD - DEVONPORT	4	4	2007/08	MC	Maintenance Costs
5093	#43 - East Coast Rd	SUNNYSNOOK ROAD	30	30	2007/08	MC	Maintenance Costs
2426	Link Drive Intersection	TARGET ROAD	131	131	2008/09	MC	Maintenance Costs

## Missing Primary Motivators Report

Many Treatment Reasons have one or more Primary Motivators associated with them. Whilst you do not need to assign a Primary Motivator to a Reason in Years 6 to 20, you do need to assign one, where they apply, to the Reasons in Years 1 to 5. After the End of Year Rollover, the Treatments and Reasons in Year 6 will now be in Year 5.

This report locates the Reasons which now need Primary Motivators. You can then associate the appropriate Primary Motivators.

CJW Technologies Limited RAMM 1		Missing Primary Motivators Programme: Current Programme					User: Nigel Printed: Monday, 8 April 2002 11:46	Page: 1
Treatment Length Name	Road Name	Start(m)	End(m)	Year	Reason			
The Strand	016-0000	605	888	2002/03	Other			
The Strand	016-0000	605	888	2003/04	Link days seal			
The Strand	016-0000	605	888	2003/04	Other			
The Strand	016-0000	605	888	2004/05	Other			
Garbo Rd	016-0001.0061-I	614	809	2001/02	Other			
Garbo Rd	016-0001.0061-I	614	809	2003/04	Link days seal			
Nelson St - Newby Rd	016-0001.0071-D	2902	3075	2005/06	Link days seal			
Newby - Wickett Springs	016-0001.0071-D	3075	3200	2003/04	Link days seal			
Garbo	016-0001.0071-D	1336	1753	2003/04	Other			
Garbo	016-0001.0071-D	1336	1753	2004/05	Other			
Garbo - Nelson St	016-0001.0071-D	1753	2902	2001/02	Other			
Garbo - Nelson St	016-0001.0071-D	1753	2902	2004/05	Other			
Garbo - Nelson St	016-0001.0071-D	1753	2902	2005/06	Other			
Garbo - Nelson St	016-0001.0071-D	1753	2902	2005/06	Link days seal			
Star Key St	016-0001.0071-D	754	1336	2005/06	Link days seal			
Garbo - Newby	016-0001.0081-I	809	2700	2003/04	Other			
Garbo - Newby	016-0001.0081-I	809	2700	2004/05	Other			
Garbo - Newby	016-0001.0081-I	809	2700	2004/05	Link days seal			
Newby - Wickett	016-0001.0081-I	2700	3408	2005/06	Link days seal			
Starkey Road	016-0001.0081-I	3408	6437	2001/02	Link days seal			
Wickett - Rosebank	016-0001.0081-I	6437	7654	2001/02	Link days seal			
Wickett - Rosebank	016-0001.0081-I	7654	8321	2005/06	Link days seal			
South to Northwest Link	016-0001.0219-HON	0	139	2004/05	Link days seal			
Hobson St On Ramp	016-0001.0253-HON	0	110	2004/05	Link days seal			
Hobson St On Ramp	016-0001.0253-HON	280	720	2003/04	Link days seal			
Hobson St On Ramp	016-0001.0253-HON	720	1020	2003/04	Link days seal			
Hobson St On Ramp	016-0001.0253-HON	1020	1102	2003/04	Link days seal			
Northwest to South Link	016-0001.0262-D-OFF	0	180	2002/03	Link days seal			
Northwest to South Link	016-0001.0262-D-OFF	0	180	2002/03	Other			
Northwest to South Link	016-0001.0262-D-OFF	0	180	2003/04	Other			
Northwest to South Link	016-0001.0262-D-OFF	0	180	2004/05	Other			
Nelson St On Ramp	016-0001.0290-D-OFF	600	940	2005/06	Link days seal			
Newby Rd West End On Ramp	016-0001.0300-HON	0	515	2004/05	Link days seal			
Wickett - South to West On Ramp	016-0001.0605-HOFF	0	283	2005/06	Link days seal			
Wickett - West End On Ramp	016-0001.0659-HOFF	0	243	2004/05	Link days seal			
Wickett - West End On Ramp	016-0001.0659-HOFF	0	120	2004/05	Link days seal			
Wickett - West End On Ramp	016-0001.0768-HON	0	434	2003/04	Link days seal			
Wickett - East End On Ramp	016-0001.0778-D-OFF	0	548	2004/05	Link days seal			

## Missing Maintenance Intervention Strategies

Every Treatment Length, where treatments are planned in any year of the Forward Work Programme, requires a Maintenance Intervention Strategy (MIS). RAMM also requires you to consider your MIS every time you make a change to the planned treatments in years one, two or three. RAMM does this by removing the associated MIS from the Treatment Length.

When you perform the End of Year Rollover, Treatments in year one are placed into history. Those in years two, three and four are moved forward one year.

These are all changes which affect the first three years of the programme and so the MIS will be removed.

This report locates the Treatment Lengths which need a MIS. You can then associate the appropriate MIS with the Treatment Length.

CJN Technologies Limited  
NSCC Ramon

User: Grant  
Printed: Monday, 2 July 2007 11:07

Page: 1

Programme Integrity Report - Missing MIS

Security Zone: Entire Network

Treatment Programme: Current Programme

Treatment Length ID	Name	Road Name	Start_m(m)	End_m(m)
2	Canongate St - End of Road	ABBEGATE STREET	0	0
5	Victoria St - #45	ABBOTSFORD TERRACE	132	132
5845	#45 - Western End	ABBOTSFORD TERRACE	430	430
11	Finchley Rd - Cul-de-sac	ACACIA ROAD	4	4
13	Lake Rd - Old Lake Rd	ACHILLES CRESCENT	6	6
25	Northcote Rd Intersection	AKORANGA DRIVE	0	0
27	Kitewao St - College Rd	AKORANGA DRIVE	512	512
28	College Rd - Start of Island/Moto	AKORANGA DRIVE	748	748
5096	#11 - Kitewao St	AKORANGA DRIVE	405	405
5795	Northcote Rd - #11	AKORANGA DRIVE	74	74
33	Wrights Rd - Gills Rd	ALBANY HEIGHTS ROAD	1850	1850
43	Rosedale Rd Roundabout	ALBANY HIGHWAY	3648	3648
44	Rosedale Rd - Bass Rd	ALBANY HIGHWAY	3790	3790
49	#480 - Millenium Village	ALBANY HIGHWAY	5221	5221
54	Church St - Vauthall Rd	ALBERT ROAD	398	398
58	#32 - #42	ALEXANDER AVENUE	354	354
61	Beach Rd - Nelson Ave	ALFRED STREET	0	0
64	Lake Road - Empire St	ALLENBY AVENUE	146	146
67	Shakespeare Rd - Nile Rd TAKA	ALMA ROAD	6	6
69	Eban Ave - Cul de sac	ALMADALE PLACE	0	0
77	Aeroview Drv - Cul de sac	AMELIA PLACE	0	0
85	Manuka Rd - Cul de sac	ANNE MCLEAN DRIVE	5	5
89	Beach Rd - Glen Rd	ANZAC ROAD	340	340
90	Glen Rd - Clyde Road R/A	ANZAC ROAD	123	123
5084	Roundabout - End	ANZAC ROAD	0	0
95	Auburn Rd - Barrys Pt Rd	ANZAC STREET	655	655
99	Birkdale Rd - Cul de sac	APLIN PLACE	5	5
104	Deuberry Ave - Cul de sac	ARAHIA STREET	3	3

## Inactive Maintenance Intervention Strategies Report

The Master List of Maintenance Intervention Strategies (MIS) is defined and Maintained by the New Zealand Transport Agency (NZTA). From time to time, NZTA will decide that a MIS is no longer to be used and will flag it as Inactive. However, this does not automatically remove this MIS from any Forward Work Programme where it is currently being used.

This report locates each inactive MIS and lists them. You can then replace them.

CJN Technologies Limited

Wellington

User: Grant

Printed: Friday, 22 June 2007 3:10:03 p.m.

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Programme Integrity Report - Inactive MIS

Security Zone: Entire Network

Treatment Programme: Current Programme

Treatment Length					MIS	
ID	Name	Road Name	Start_m(m)	End_m(m)	Code	Description
45	Bass Road Round a bout	ALBANY HIGHWAY	4394	4394	H	Holding and Monitoring
47	Wharf Road Round a bout	ALBANY HIGHWAY	4713	4713	H	Holding and Monitoring

## Missing or Zero Maintenance Intervention Strategies Costs Report

Each Maintenance Intervention Strategy (MIS) has an individual cost defined for it. The default value for a MIS is \$0.00/m<sup>2</sup>. It is possible that by design or error, that a particular MIS may not have been given a financial cost at all.

This report identifies and lists each MIS which has no real cost associated with it. You can then associate a real cost with them.

C:\N Technologies Limited

Wellington

User: Grant

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Printed: Friday, 22 June 2007 3:10:03 p.m.

## Programme Integrity Report - Missing or Zero MIS Costs

Security Zone: Entire Network

Treatment Programme: Current Programme

Cost Set Code	Description	Error Message	MIS Code	Description
1	The TSF Cost Set	No Cost Defined	H	Holding and Monitoring
1	The TSF Cost Set	No Cost Defined	N	Normal Maintenance
1	The TSF Cost Set	No Cost Defined	P	Pre Reseal Repairs
1	The TSF Cost Set	No Cost Defined	R	RHAB or AWT
1	The TSF Cost Set	No Cost Defined	Z	P17 warranty- within 12 months maintenance
2	UNKNOWN	No Cost Defined	H	Holding and Monitoring
2	UNKNOWN	No Cost Defined	N	Normal Maintenance
2	UNKNOWN	No Cost Defined	P	Pre Reseal Repairs
2	UNKNOWN	No Cost Defined	R	RHAB or AWT
2	UNKNOWN	No Cost Defined	Z	P17 warranty- within 12 months maintenance
3	The North Shore City Cost Set	Zero Cost Defined	H	Holding and Monitoring

## Inactive Safety Intervention Strategies Report

The Master List of Safety Intervention Strategies (SIS) is defined and Maintained by the New Zealand Transport Agency (NZTA).

From time to time, NZTA will decide that a SIS is no longer to be used and will flag it as Inactive.

However, this does not automatically remove this SIS from any Forward Work Programme where it is currently being used.

This report locates and lists each inactive SIS. You can then replace them.

C:\N Technologies Limited Wellington			User: Grant Printed: Friday, 22 June 2007 3:10:03 p.m.			Page: 20
<b>Programme Integrity Report - Inactive SIS</b>						
Security Zone: Entire Network			Treatment Programme: Current Programme			
Treatment Length					SIS	
ID	Name	Road Name	Start_m(m)	End_m(m)	Code	Description
40	Schnapper Rock Rd R/A	ALBANY HIGHWAY	1978	1978	45	Black Spot

## Missing Cost Sets Report

Cost Sets are used to distinguish between the differing costs for the same Treatments which result from geographical or other considerations. In order for the Planned Treatments to be costed for a Forward Work Programme, all Treatment Lengths require an associated Cost Set from those available in the Security Zone.

This report locates Treatment Lengths with no associated Cost Set. You can then associate an appropriate one.

C:\JN Technologies Limited  
NSCC Ramm

User: Grant  
Printed: Monday, 2 July 2007 11:07

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Programme Integrity Report - Missing Cost Sets

Security Zone: Entire Network

Treatment Programme: Current Programme

Treatment Length ID	Name	Road Name	Start_m(m)	End_m(m)
45	Bass Road Round a bout	ALBANY HIGHWAY	4394	4394
47	Wharf Road Round a bout	ALBANY HIGHWAY	4713	4713

## Inactive Cost Sets

From time to time, you will decide that a Cost Set is no longer to be used in your Security Zone and will flag it as Inactive.

However, this does not automatically remove this Reason from any Treatment Length where it is currently being used.

This report locates the inactive Cost Sets.

You can then replace them.

CJN Technologies Limited  
NSCC Ramm

User: Grant  
Printed: Monday, 2 July 2007 11:07

Page: 29

Programme Integrity Report - Inactive Cost Sets

Security Zone: Entire Network

Treatment Programme: Current Programme

Treatment Length ID	Name	Road Name	Start_m(m)	End_m(m)	Cost Set Code	Description
45	Bass Road Round a bout	ALBANY HIGHWAY	4394	4394	H	Holding and Monitoring
47	Wharf Road Round a bout	ALBANY HIGHWAY	4713	4713	H	Holding and Monitoring

## Trends and Exceptions

The collation of data does not itself provide the means of identifying problem sites.

The interpretation of the data is important, as this is the process which identifies the trends and exceptions essential for the early identification of faults and the subsequent selection of treatments for each Treatment Length.

*Chapter 1 - Section 7.13* of the *SHAMM* discussed the types of indicators, interventions and customised indicators for trends and exceptions.

---

## Exception Maintenance

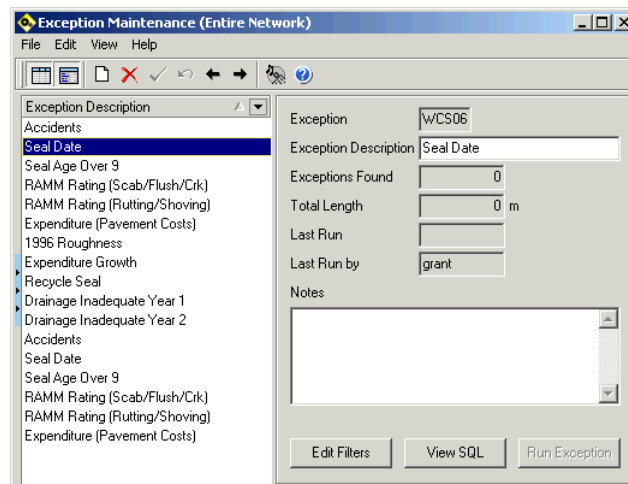
### Overview

You can use exceptions to search through Treatment Length summary data finding Treatment Lengths that are performing abnormally. Run this from the **Projects > Forward Work > Exceptions** menu from RAMM Manager.

An exception can be based on either, a filter or an SQL query you have created. You can also start by using the filter tool to develop the exception and switch to SQL when more complex searches are required than the filter tool offers. However, once you switch to SQL you can no longer access the exception as a filter.

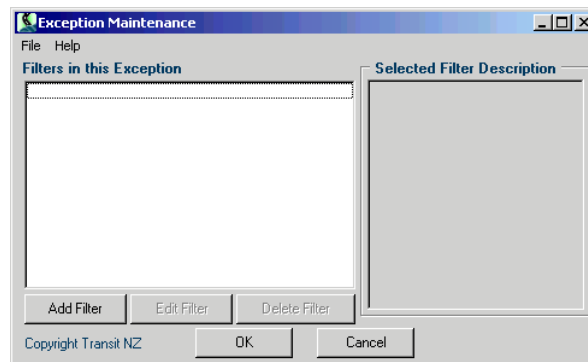
When running an exception all Treatment Lengths matching the criteria you have specified are tagged with the code of that exception. These tags remain against the Treatment Length until you clear them or rerun the exception.

To find all the Treatment Lengths tagged by an exception use RAMM. Click on the Treatment Length icon and filter the grid for Treatment Lengths with that exception code.



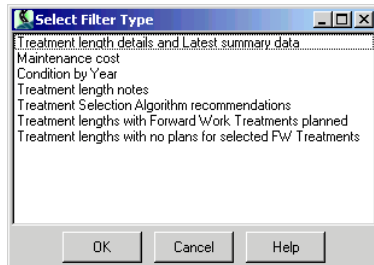
To create a new Exception definition you first need to insert a new record, selecting a Network Management Area, giving it a unique Exception Code and a Description. You can also add some explanatory notes if you wish.

Once you have your basic definition you need to add the selection criteria. Do this by clicking on the **Edit Filters** button. This will cause the following window to be displayed.

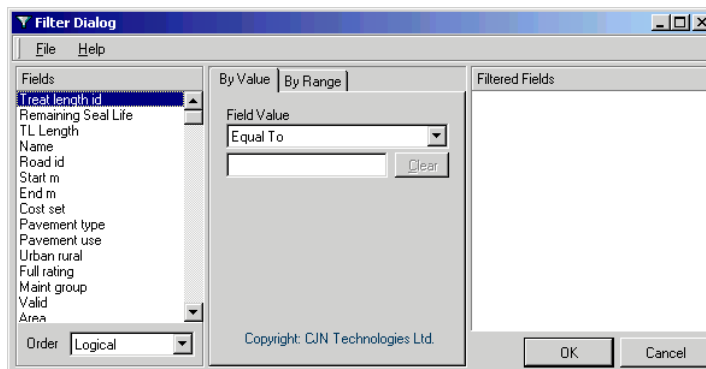


Filtering information for Treatment Lengths is complex as a result of the diverse range of tables that hold Treatment Length related data.

Therefore, you will need to choose what type of Treatment Length information you want to search for using the following window.

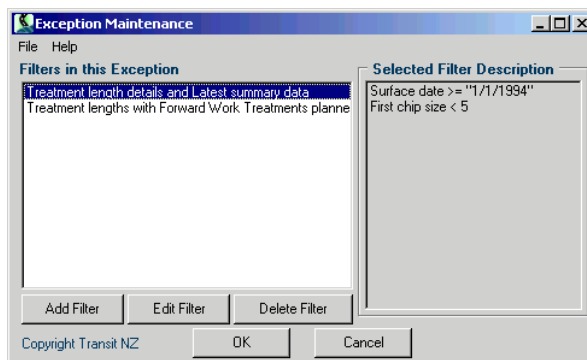


In this example we have chosen to search for information from the **Treatment Length details and Latest summary data**. This causes a Filter Dialog to be displayed as follows.



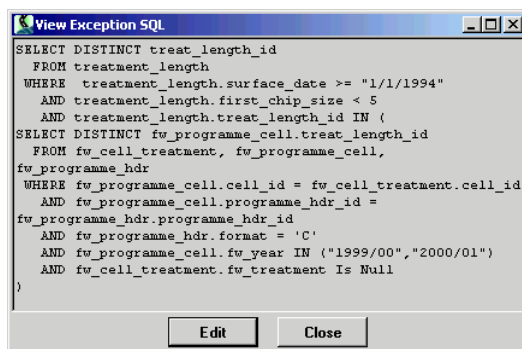
Use this in the same way as you would for filtering any asset and select from the information available and define the search criteria.

The following window shows some selection criteria based on the Surface Date and First Chip Size.

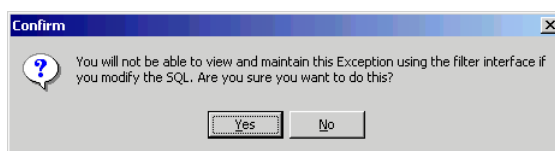




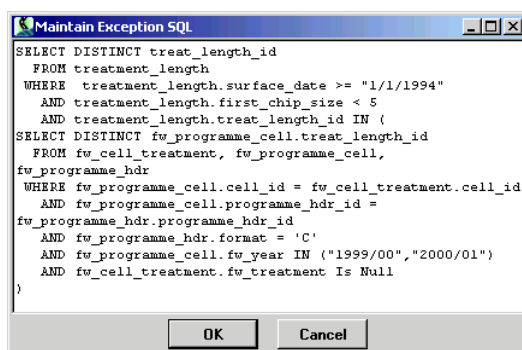
Once you have saved your definition you can look at the SQL that has been generated for you based on the selection criteria. The following is the SQL from the query described in the last window.



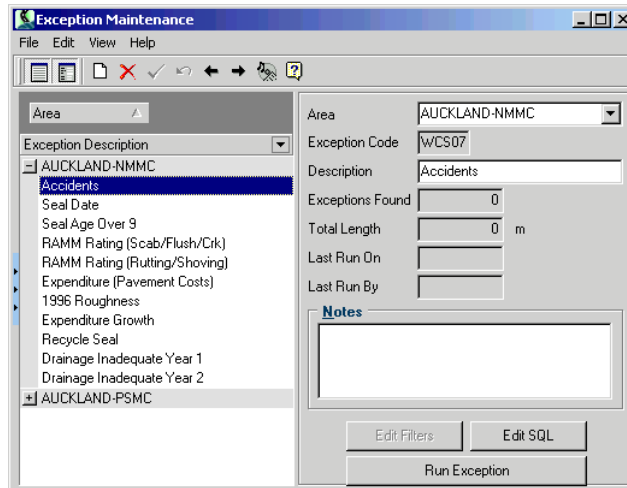
As you can see, this SQL is quite complex. However, if you want to alter this SQL you can do so by clicking on the **Edit** button. If you do this you will be warned as follows:



The reason for this warning is that RAMM will no longer be able to determine the component parts of your SQL once you have altered it. Therefore, once you have done this there is no going back and you will only be allowed to edit the SQL from now on. In edit mode the SQL window looks like this:



When you have finished altering the SQL click on Ok to save the changes. As you can see from the following example, you can only click on the **View (Edit) SQL** button from now on.



### Edit Filters

This allows you to define a Treatment Length filter for the exception.

### View (Edit) SQL

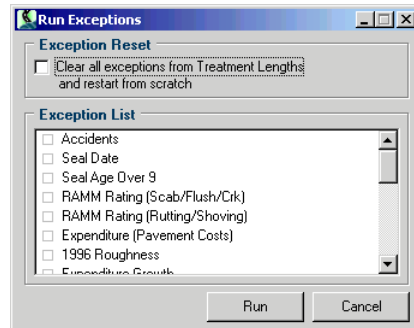
This shows the RAMM SQL matching your filter criteria, used to select Treatment Lengths. You can **Edit** the SQL directly from this screen but will then no longer be able to use the filter interface to modify the exception. Use the Edit option for queries too complex for the filter, such as using `or` in a query.

### Run Exception

The exception must be saved before you can run it. The **Run Exception** button runs only the currently displayed exception. The exception code is cleared from all Treatment Lengths then reset by running the exception filter or SQL. Other exceptions are not affected.

### File > Run Multiple Exceptions

Use this option to run more than one Exception definition at once.



### Exception List

Choose the exceptions to run. Unless the exception reset tickbox is selected exception codes are only cleared for the exceptions you choose to run.

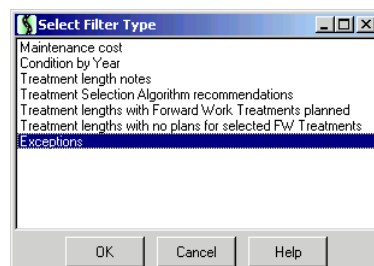
### Exception Reset

Select this check box to force all exception codes to be cleared from Treatment Lengths regardless of whether you choose to run the exception from the Exception List box. This does not delete any of your exceptions. Only the codes held against Treatment Lengths are cleared. The definition of the exception is unaffected. All exceptions defined in the Exception Maintenance window will remain.

## Using the Exception

Once you have created and run the exception it will appear in the Treatment Length filter, which is very similar to the mechanism used to create the exception. The difference is that the Treatment Length filter provides searching by exceptions.

To do this, select the filter type **Exceptions**.



Note that the Exceptions Filter option is only available from the Treatment Length Filter in RAMM.

## Why Use Exceptions?

- Building an exception allows you to develop a search and tag all the Treatment Lengths matching the query **at that time**. You can then close RAMM for Windows and find exactly the same set of Treatment Lengths next time by searching for the exception. The list of Treatment Lengths found will remain the same until you rerun the exception.
- For complex queries it is much **faster** to filter for an exception you have already run, compared to re-running a complex filter.
- When necessary you can **edit** the Exception SQL directly. This is not available for a Treatment Length filter.

---

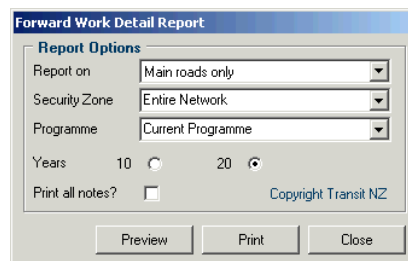
## Forward Work Detail Report

This is a detailed report of the Twenty-year Programme for the Treatment Lengths within the selected Road.

The report can be configured to look at either the Main Roads or the Ramps.

It is possible to choose to report on your Current Forward Work Programme or one of the alternative scenarios. The report can be further configured to choose your Programmes from out of the Security Zone.

You can access this report from within RAMM using the menu **Forward work > Detail Report**.



As you can see from the Options Dialog there are a number of variations of this report that you can choose from.

Firstly, you can choose to report on the Main Roads or the Ramps Only. You can also select which of your Programmes that you want to send to the report. By default the Current Programme is selected. You can then choose to filter the report down to the Office or Local Area level.

When Forward Work Planning was first implemented it was designed to support a 10-year Forward Work Programme. It has since been extended to support a 20-year Programme. However, for convenience and to save space, you can choose to look at only the first 10 years of the Forward Work Plan.

This report will, by default, show you only the most recent note that applies to each Treatment Length. However, you can choose to have all notes displayed in the report. See the section on Treatment Length Notes (on page 63) for more information on using these notes.

[illegible]

The example report shown here is for Main Roads, over 10 years of the Current Programme and displays only the most recent notes.

# Contractors Programme Report

The Contractors Programme Report gives you details of the first five years of the Forward Work Plan. The format is similar to the Detail Report.

Access to this report is in RAMM using the **Forward work > Contractors Programme Report** menu.

**Contractors Programme Report**

**Report Options**

Report on: Main roads only

Security Zone: Entire Network

Programme: Current Programme

Print all notes? ☐ Copyright Transit NZ

Preview Print Close

As you can see from the Options Dialog there are a number of variations of this report from which you can choose.

Firstly, you can choose to report on the Main Roads or the Ramps Only. You can also select which of your Programmes that you want to send to the report. By default the Current Programme is selected. You can then choose to filter the report down to the Office or Local Area level.

This report will, by default, show you only the most recent note that applies to each Treatment Length. However, you can choose to have all notes displayed in the report. See the section on Treatment Length Notes for more information on using these notes.

[illegible]

The example shown here is for Main Roads and is reporting the first five years from the Current Programme. Only the most recent notes are displayed.

## Field Inspection Report

The Field Inspection Report contains all the information that you might need, from the Forward Work Programme for your Treatment Lengths, to take with you into the field when doing an assessment.

You can choose to extract the data from one or two Programmes (for comparison).

There are two versions of this report. One is in a fixed format and available to print or export to Microsoft Excel. The second is in the form of a Grid that you can manipulate in order to display those parts of the data that are of interest to you.

Many people have their own version of the Field Inspection Report, which have been created using MS Excel. Therefore, to make life easier the new Grid Field Inspection Report in RAMM can be used to save the data you require directly in MS Excel format. You can then use this as the data source for your own report. All the data that you require should be available so this provides an easy route to getting the information.

## Formatted Version

The formatted version of the Field Inspection Report is available in RAMM under the menu **Forward Work > Field Inspection Report > Formatted**.

The screenshot shows the 'Field Inspection Report' dialog box. It contains the following sections:

- Report Options:**
  - Security Zone: Entire Network (dropdown)
  - Main Programme: Current Programme (dropdown)
  - Alternative Programme: (empty dropdown)
  - Preferred TSA Header: (empty dropdown)
- Output Format:**
  - A4: ☒ (selected)
  - A3: ☐ (unselected)
  - Excel File: ☐ (unselected) with a text field containing 'Field Inspection 18Jun2007.xls' and a browse button.
- Additional Options:**
  - ☐ Include Disabled Treatment Lengths (unchecked)

At the bottom, there is a copyright notice 'Copyright: C/JN Technologies' and three buttons: 'Preview', 'Print', and 'Cancel'.

As you can see from the above options dialog, you can choose one or two Forward Work Programmes to be sent to the report. Details from the Main Programme will appear above those from the Alternative in the report. By default the Main Programme is set to be the Current Programme, but you can change this if you wish.

Along with your choice of Programmes you can also filter the report by the Login or Child Security Zone.

Among the information that is available on this report is the Treatment Selection Algorithm recommendation. Since it is possible to run a number of TSA Analyses during the course of your review of the network, RAMM needs to know from which one to extract the data.

CJM Technologies Limited  
RMM M1

User: Nigel Page: 1  
Printed: Friday, 19 April 2002 10:10

## Twenty Year Forward Work Programme - Field Inspection

### Main Programme: CAME Programme

Local Information		Treatment Length Information				Evaluating Survival Information				Hazard Condition Information				Event Counts	ISA	Comments
Local Name	Ref	Start	End	IL Name	Flow Rate	AC1 d100% SW	Surv Date	Surv Ref	20% Chp	Line	10% 10A %	5% SW %	5% SW %	10% 10A %	10% 10A %	10% 10A %
2011 018-0000		0	05	018-00100		S	00450	010802001	AC 14	B	10A			0.0	07.0	
2007/02 2004/03 2004/03		2004/03	2005/06	2004/07	2005/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08
Treatment		FAC				FAC				FAC						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
2011 018-0000		05	06	018-00100		S	00450	011131000	AC 10	B	0.0			0.0	10.0	
2007/02 2004/03 2004/03		2004/03	2005/06	2004/07	2005/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08
Treatment		FAC				FAC				FAC						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
2011 018-0000		06	07	018-00100		S	00450	130802001	AC 14	B	100			51.0		
2007/02 2004/03 2004/03		2004/03	2005/06	2004/07	2005/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08
Treatment		FAC				FAC				FAC						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
2011 018-0000		07	08	018-00100		C	00450	130802001	AC 14	B	10A			20.0	00.0	
2007/02 2004/03 2004/03		2004/03	2005/06	2004/07	2005/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08
Treatment		FAC				FAC				FAC						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
2011 018-0000		08	09	018-00100		C	00450	011131000	AC 10	B	100			22.0	07.0	
2007/02 2004/03 2004/03		2004/03	2005/06	2004/07	2005/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08	2004/08
Treatment		FAC				FAC				FAC						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						
Flow Rate		Flow Rate				Flow Rate				Flow Rate						

This example of the report is in A4 format and is for the Current Programme only.

## Grid Version

The grid version of the Field Inspection Report is available in RAMM from the **Forward Work > Field Inspection Report > Grid** menu.



**Field Inspection Report**

**Location Options**

Security Zone: Entire Network

State Highway: All State Highways

Road: All Roadnames

**Programme Options**

Main Programme: Current Programme

Alt. Programme: Programme Prior Nov 2006

**Treatment Selection**

TSA Header: WwG2004 BC 4

☐ Include disabled Treatment Lengths

**Generate**

This version of the Field Inspection Report contains columns of information from the Treatment Length, Maintenance Costs, Latest Condition, and the Forward Work Programme. You can select one or two Forward Work Programmes to be included in the report. Once you have chosen your data and format, you can either print the report directly or export it to Excel or a text file for further formatting.

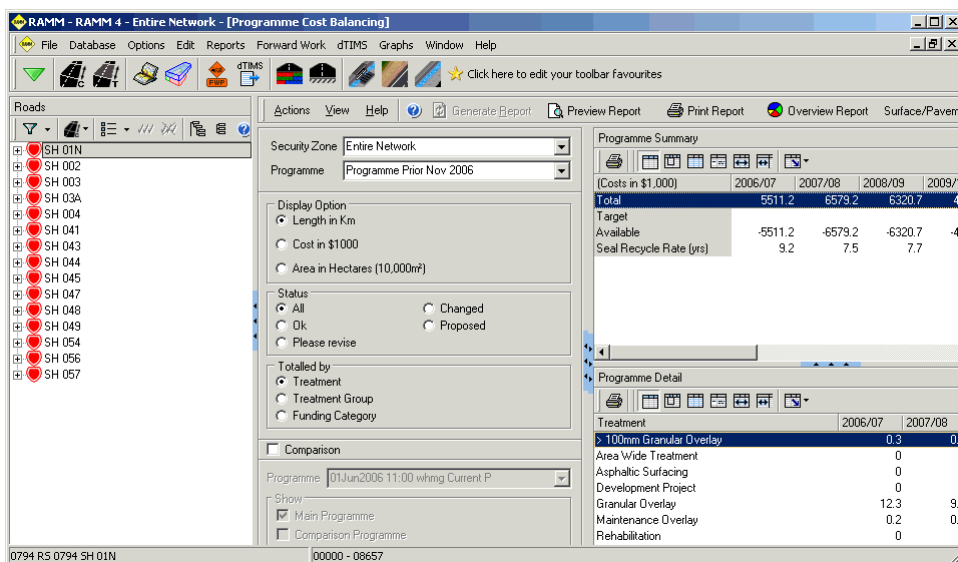
Main Year 12 dTIMS Predicted SII	cway_hierarchy	tl_name	road_id	road_name	Start Displacement
AUCKLAND-PSMC AUCK. CENTRAL	AKLD	Oteha Valley			2614 01N-0296-D
AUCKLAND-PSMC AUCK. CENTRAL	AKLD	Silverdale - Bridge U/Pass			2613 01N-0296-I
AUCKLAND-NMMC AUCK. CENTRAL	AKLD	Greville I/C			2613 01N-0296-I
AUCKLAND-NMMC AUCK. CENTRAL	AKLD	Greville On to Rosedale SB			2613 01N-0296-I
AUCKLAND-NMMC AUCK. CENTRAL	AKLD	Oteha Valley - Greville			2613 01N-0296-I
AUCKLAND-PSMC AUCK. CENTRAL	AKLD	Lonely Track Crawler to Oteha off			2613 01N-0296-I
AUCKLAND-PSMC AUCK. CENTRAL	AKLD	Bridge U/Pass - Oteha Valley			2613 01N-0296-I
AUCKLAND-NMMC AUCK. CENTRAL	AKLD	Greville - Constellation			2613 01N-0296-I
AUCKLAND-PSMC AUCK. CENTRAL	AKLD	Silverdale - Bridge U/Pass			2613 01N-0296-I
AUCKLAND-PSMC AUCKLAND NORT	AKLD	Silverdale Bridge			2579 01A-0000-D

This example of the Field Inspection Report Grid has been generated for the complete network as present in the database.

You can choose to run the report for only a portion of the network by choosing from the Location options. You will also need to select a TSA Header from those available. Once you have made your choices click on the **Generate** button to populate the report grid.

## Balancing the Programme

This window is available in RAMM from the **Forward Work > Balancing** menu.



This formally formatted report is used for audit purposes when a Consultant returns the Forward Work Programme to the New Zealand Transport Agency (NZTA). Use the options to select filters to apply, such as a Status of All or Changed. Use the Security Zone to select the parts of the programme to be summarised for balancing.

**Programme Summary** reports the total dollars calculated from the appropriate Cost Sets for **total** (total programme) and available (the difference between target and **total**). To enter or edit targets press the Edit Targets button. Enter a value for each of the twenty years against each Security Zone. **Reseal Cycle Rate** is calculated by dividing the total length of resealing programmed by the total length of the network. Where a Security Zone is selected, the lengths used are those relating to the selection.

**Programme Detail** reports either dollars (\$000) or length (km) for each of the Treatments, Treatment Groups, or Funding Groups as selected. The dollars and length are calculated on the basis of the **Treatments** programmed, the length of the Treatment Lengths to which they apply and the costs assigned through the treatment Cost Set. Any change to the treatments assigned to a Treatment Length, the Treatment Length itself, or the costs assigned through the Cost Set will invalidate the programme balancing data. The table is flagged as invalid and before it can be viewed you need to recalculate the Programme Costs.

Press **Preview Report** or follow the menu path **Actions > Preview Report** for a report based on the information on this screen. To print it, click the **Print** button or select **Actions > Print**. You can also generate an **Overview Report** graph.

Transit New Zealand - RAMM 4

RAMM 4

User: grant

Page: 1

Printed: Friday, 22 June 2007

Forward Work Programme Cost

Programme Name: Programme Prior Nov 2006

Security Zone: Entire Network

Programme Summary

(costs in \$1,000s)

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Total	5511.2	6579.2	6320.7	4440.9	5242.8	4400.3	5850.4	6498.5	4281.4	5436.3	1900.6	517.2	0	0	0	0	0	0	0	0
Target																				
Available	-5511.2	-6579.2	-6320.7	-4440.9	-5242.8	-4400.3	-5850.4	-6498.5	-4281.4	-5436.3	-1900.6	-517.2								
Seal Recycle Rate (yrs)	9.2	7.5	7.7	9.9	9.6	9.3	9.5	9.5	11	9.7	16.9	26.1	26.6	19.1	19.7	19.4	33.2			

Programme Detail

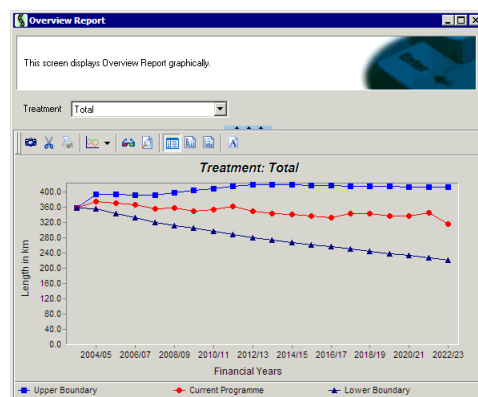
Length in km

Include All Statuses

Treatment	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
> 100mm Granular Overlay	0.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area Wide Treatment	0	0	0	0	0	0	0	0	2.8	9.3	0.4	0.5	0.4	0.4	1.2	1.2	0.7	0	0	0
Asphaltic Surfacing	0	0	0	0	0	0	0	0	0.5	2.1	1.8	1.4	3.2	0.9	1.3	1.1	0.9	0	0	0
Development Project	0	0	0.6	4.6	0	0	0	0	5.9	0	0	0	0	0	0	0	0	0	0	0
Granular Overlay	12.3	9.7	9	8.6	10.3	9.6	11.3	9.2	6.2	0	0	0	0	0	0	0	0	0	0	0
Maintenance Overlay	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rehabilitation	0	0	0.4	0	0.7	0	0	0	0	0.1	0.1	0.3	0.6	0.8	0.6	0	0	0	0	0
Resurfacing	0	0	0	0	0	0	0	1.4	45.3	126.8	72.3	46.5	43.8	64.5	62.4	63.2	36.8	0	0	0
Resurfacing - Big Chip	4.6	19.8	23.4	52.7	55.3	53.1	71.2	59.7	27.2	0	0	0	0	0	0	0	0	0	0	0
Resurfacing - Chip	3.2	7.5	8.8	8.3	11	13.8	14.3	39	1.6	0	0	0	0	0	0	0	0	0	0	0
Unknown																				
Resurfacing - Grade 2 Chip	12.5	6.9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

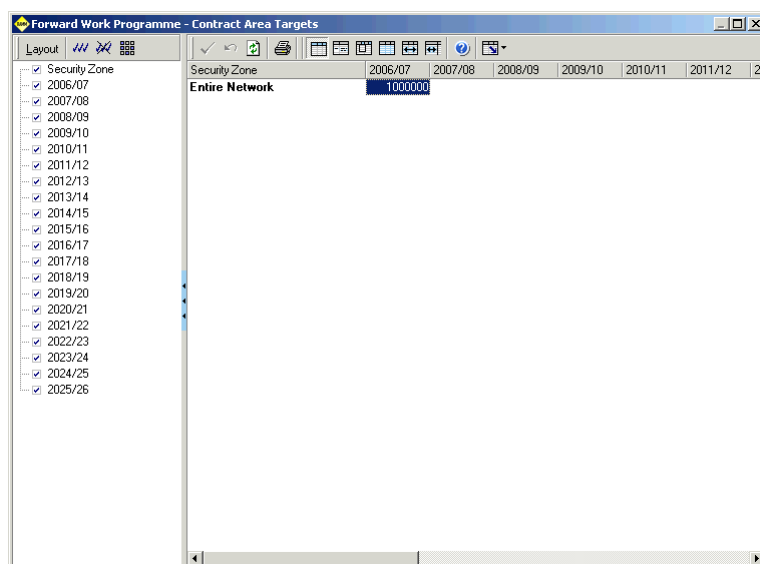
## Overview Report

You can generate an Overview Report in graph format from the Forward Work Programme balancing window. Click the **Overview Report** button, or select **Actions > Overview Report**.



## Editing Programme Targets

This screen is available in RAMM from the Programme Balancing window by using the **Actions > Edit Targets** menu.



Enter Target Values for the twenty Planning Years and those Security Zones that require them. All Targets for a given Planning Year are added together and displayed in the Programme Summary area of the Balancing window.

(Costs in \$1,000)	2001/02	2002/03	2003/04	2004/05
Total	13142.4	13290.5	10434.7	13587.8
Target		600		
Available	-13142.4	-12690.5	-10434.7	-13587.8
Seal Recycle Rate (yrs)	8.6	7.7	8.8	7.3

## Programme Outputs

### Format

The programme includes the following information:

- Treatment Length referenced by route position.
- Treatment Length reference name.
- Date and type of last seal coat and expected life.
- Upper pavement moisture sensitivity.
- Maintenance intervention strategy applicable for the Treatment Length.

- **Treatments** (other than reactive maintenance) against the appropriate financial year.
- Comments.

## Programme Accuracy

The first year of the programme is the current financial year and represents the work programme in progress.

The second year represents a firm recommendation on works for which funds should be sought for treatment in the next financial year.

The third year presents a reasonable assessment of the needs. There must be some tangible evidence supporting the programme for that year.

Years 4 to 20 represent an engineering assessment based on considerations including age, dTIMS CT and expected life.

## Pretreatment

Pretreatment needs, such as drainage works prior to resealing, shall be indicated in the programme.

## Economic Analysis

Whenever possible the Year 1 and 2 programmes should be supported by economic analysis. This is a prerequisite for pavement reconstruction, seal widening and improvement works which should have cost/benefit ratios above the current cut-off ratio or otherwise have prior client funding approvals.

## Project Development Status

Construction works shall have the current project development status (Point X or Y) as defined in the New Zealand Transport Agency (NZTA) Land Transport Programme Development and Management Manual, confirmed in the comments section of the programme.

---

## Reviewing the Forward Work Programme

Once the Forward Work Programme has been completed by the Consultant it is ready to be reviewed at the New Zealand Transport Agency (NZTA). This section details the process by which this takes place.

### Review

The **Twenty-Year Programme** is subject to constant review. The adequacy of the proposed **Treatments** may change as the pavement deteriorates. Other factors, such as crash statistics, may influence improvement works.

#### Review Frequency

Two formal reviews of the twenty-year programme are required.

One review is required once the results of the **RAMM** Condition Rating Survey, Treatment Selection and Roughness Survey have been completed. It needs to be timed to coincide with NLTP development. This is generally carried out in October. Another review is required once the level of funding for the following year is confirmed. Programmes and strategies will need to be aligned to approved funding levels. This is generally carried out in May.

Other reviews may be required whenever any funding changes occur or pavement deterioration does not take place as expected.

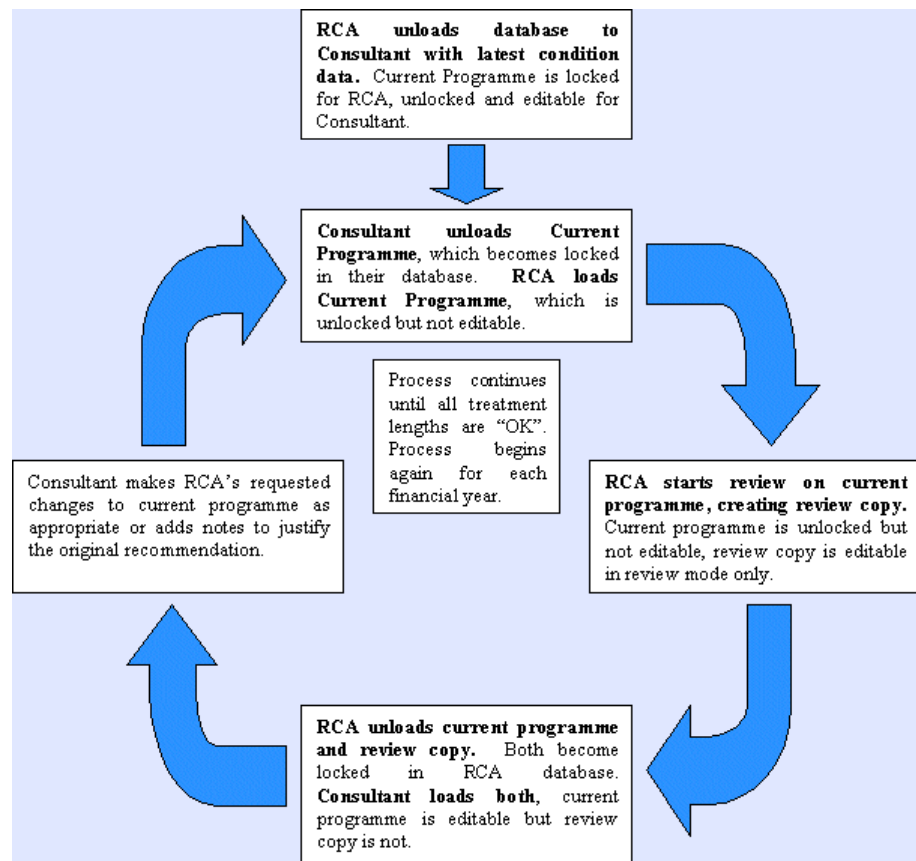
#### Basis of the Review

Whenever a formal review is undertaken all data inputs shall be updated. The following actions shall also be undertaken:

- Adjustments to the current work programme shall be made in accordance with physical works achievements.
- The programme for the following four years shall be reviewed in consideration of the best currently available information.
- Refinement of preventative maintenance or pretreatment programmes shall be provided in terms of extent and cost.
- Priorities shall be determined for works recommended in the following year.

## Forward Work Programme Review Procedure

### Overview of NZ Transport Agency (RCA) and Consultant Roles In Review Process



### Permissions

#### Consultant

- can edit the Current Programme (provided it is not locked)
- can not change the Review Programme loaded from the New Zealand Transport Agency (NZTA)
- can copy Programmes to create Alternative Scenarios and then edit these.

## New Zealand Transport Agency

- can not edit the Current Programme
- can add instructions to the Current Programme in the form of Review Notes, so that the Consultant can edit the Programme
- can also copy Programmes to create Scenarios and then edit the Scenarios.

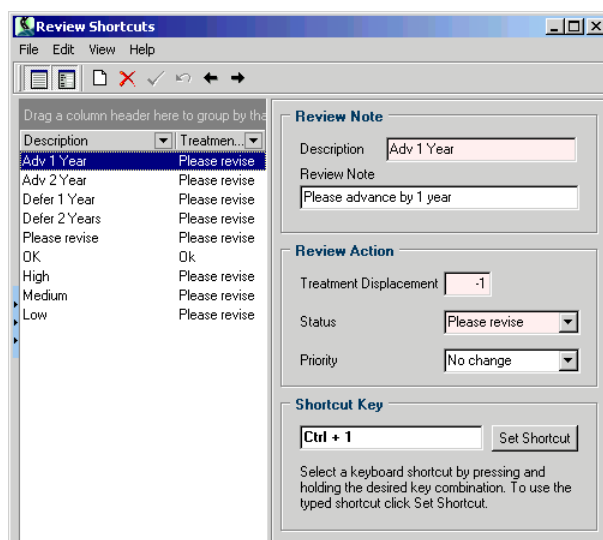
## Preparing to Review the Programme

Reviewing a Forward Work Programme is the responsibility of staff at the New Zealand Transport Agency (NZTA). However, some of the steps in this process need to be carried out by the Consultant who is maintaining that Programme.

Therefore, this section describes all the steps taken by both NZTA and the Consultant when a Programme Review is being carried out.

## Maintaining Review Shortcuts

Reviewing the Programme is a New Zealand Transport Agency (NZTA) function that can only be carried out on the master database held by NZTA. Therefore, the ability to define and maintain the Shortcut Keys used in the Review process can only be done by NZTA. This window is available in RAMM Manager from the menu **Projects > Forward Work > Review Shortcuts**.



This window is used to define a Shortcut Key for a recommendation that you might use frequently during the course of a Review.



Each Shortcut consists of a Description (the name of the Shortcut), a note that will be recorded in the Review Notes area and a set of actions that will be carried out on the Treatment affected.

The Review action comes in three parts:

**1 Treatment Displacement**

This moves the Treatment from its current Planning Year to one either before or after the current one.

**2 Status**

This action changes the Status of the Programme for the given Treatment Length.

**3 Priority**

This action changes the Priority associated with the Treatment to give an indication of how important it is to carry it out.

To set the Shortcut Key you click on the Shortcut Key data field and then press your choice of keys on the keyboard. Your choice will be displayed in the data field and you confirm that it is to be used by clicking the **Set Shortcut** button.

## Programme Balancing Report

The New Zealand Transport Agency (NZTA) also requires a copy of the Balancing Report to accompany the Forward Work Programme files. Please see the section on Balancing the Programme (on page 101) for a description on how to produce this report.

## Starting the Programme Review

The New Zealand Transport Agency (NZTA) has the ability to formally review the Current Forward Work Programme and either approve the proposed work for each Treatment Length or make recommendations for alterations.

NZTA can not make any changes to the Current Programme and can only make recommendations that are passed back to the Consultant.

### Programme Review

Programme Reviews can only be carried out by the New Zealand Transport Agency (NZTA). The objective of this process is to acknowledge all proposed **Treatments** as acceptable, or alternatively instruct the consultant on changes that are to be made.

Instructions are issued in the form of review notes attached to Treatment Lengths in the current programme. The suggested changes, such as defer one year, are reflected in the review programme. The client can gauge the effects of the suggested changes by looking at the programme balance for the review programme.

### Initiating a Review (New Zealand Transport Agency)

To begin the Review process you must first initiate the review for the Current Programme. You can do this in RAMM Manager from the Programme Maintenance window by choosing the menu **Actions > Review > Initiate**. Alternatively, if you are using the Planning window in RAMM you can initiate a review using the menu **Actions > Initiate Review**.

The status of the Programme should be **Unlocked** but **Not Editable** before the review is initiated and this does not change.

It is the job of the Consultant to select the appropriate treatments. The New Zealand Transport Agency (NZTA) can not edit a current Forward Work programme. They can only review it, make comments on it and then return it to the Consultant for updating. Physical changes are made on the review copy of the programme.

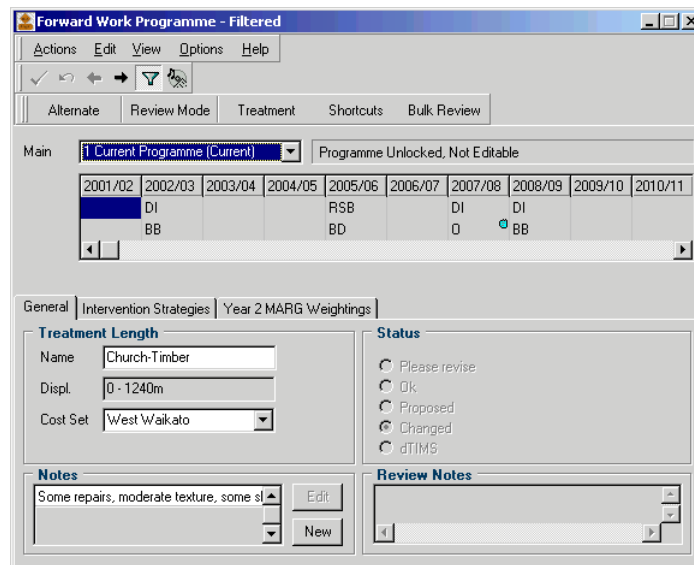
Once the review is initiated, the Copy Programme for Review window is opened.



This screen gives the choice either to review the Programme from the Login Security or to make a review copy of the current programme. This review copy can be viewed with the current programme in RAMM when the review is being performed (see below) so it is recommended that this copy be made. The copy has a status of editable by review only.

## Reviewing the Programme

When the Current Programme is in Review the Forward Work Planning window looks like this:



The **Review Mode**, **Shortcuts** and **Bulk Review** buttons are now available to you.

### Review Mode

This allows you to begin reviewing the Current Forward Work Plan. The the Review Shortcuts toolbar opens.

### Shortcuts

This opens the Review Shortcuts toolbar if it has been closed.

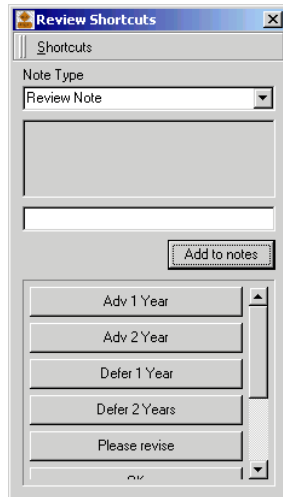
### Bulk Review

This opens the Bulk Review window which enables you to review more than one Treatment Length at a time.

## Working in Review Mode

To begin reviewing, press the **Review Mode** button on the toolbar.

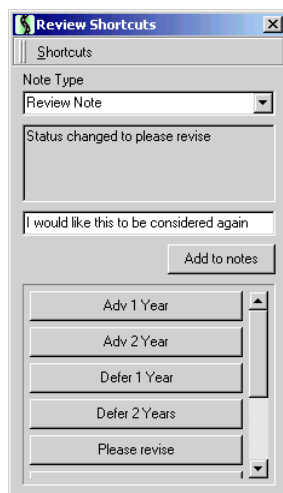
This opens the **Review Shortcuts** window and allows the New Zealand Transport Agency (NZTA) to add notes to the programme by selecting cells and then adding the desired instruction by clicking the appropriate button in the Shortcuts window.



## Shortcuts

The shortcut buttons are designed to attach clear instructions to the Consultant on what actions are required. Review notes detailing the instruction are automatically attached to the Treatment Length when the buttons are pushed.

When Please Revise is added to a Treatment Length, there should also be a note accompanying this.



This note can be added by entering it into the box in the Shortcuts window, then pressing the **Add to notes** button. This results in a note that looks like:

I would like this to be considered again  
Status changed to please revise

This note will then be recorded as a Review Note for this Treatment Length.

## Working With Alternative Programmes

Pressing the **Alternate Programme** button will bring up the review copy of the **Current Programme** underneath the current programme, or any other programme when not in Review Mode. This is to allow two programmes to be compared and allows the suggested changes to be physically made on the review copy. If the review copy is not open the suggested changes will not be made on it.

Main	1 Current Programme (Current)										Programme Unlocked, Not Editable	
Alternate	5 Review of Current Programme										dTIMS Analysis Date	
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11		
Main		DI			RSB		DI	DI				
		BB			BD		O	BB				
Alternate		DI			RSB		DI	DI				
		BB			BD		O	BB				

This review copy shows the changes requested. The current programme is not changed - it only has instructions to the Consultant added in the review notes window.

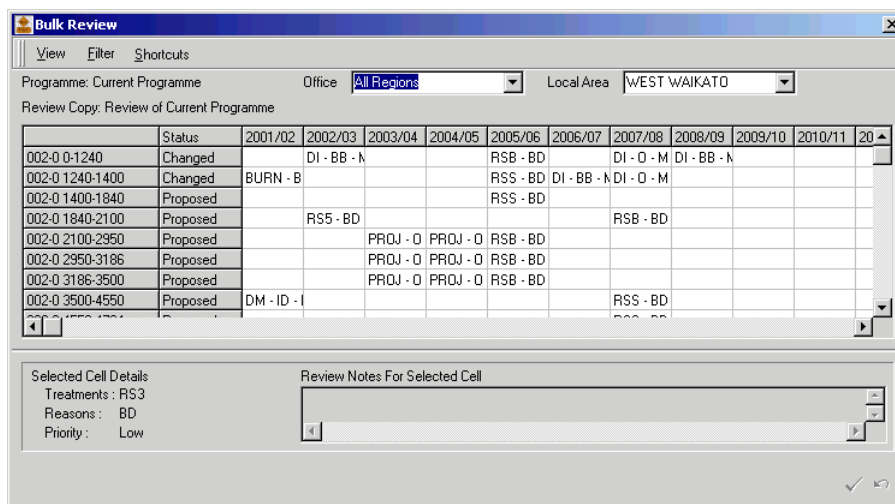
### Working With Alternative Programmes (Example)

If you chose to advance the 2005/06 Treatment by one Year you would see the following:

Main	1 Current Programme (Current)										Programme Unlocked, Not Editable	
Alternate	5 Review of Current Programme										dTIMS Analysis Date	
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11		
Main		DI			RSB		DI	DI				
		BB			BD		O	BB				
Alternate		DI		RSB			DI	DI				
		BB		BD			O	BB				

## Working with the Bulk Review

The **Bulk Review** button  opens the Bulk Review window.



This window lists all Treatment Lengths for a Security Zone and allows filtering of these Treatment Lengths. A number of **Treatments** can be selected at once by holding down the CTRL key and picking cells and then these can have the same instructions added concurrently. For example, a filter may be applied to show all low priority Year 2 reseals, then after selecting them all the shortcut button to defer all of these by one year can be pressed.

When viewed in the Bulk Review window, the programme is updated as changes are made. So this view behaves the same as the Review copy in that it shows the changes requested, not just the instructions.

### View > Refresh

This menu causes the window to be refreshed.

### View > Shortcuts

This menu displays the Shortcuts toolbar if it has been closed.

### Filter > Set/Edit Filter

This menu allows you to set or edit a filter for the Treatment Lengths displayed in the Bulk Review window.

### Filter > Clear Filter

This menu clears any filter that you have previously set.

### Shortcuts – Working With the Bulk Review

This is a menu alternative to using the buttons on the Review Shortcuts toolbar.

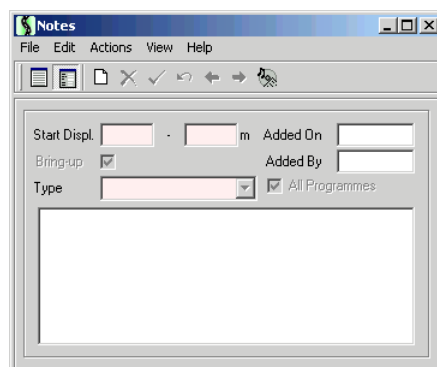
## Returning to Normal Mode

To return to the normal mode of the Forward Work window press the **Review Mode** button once again.

### Notes

Notes can be added to either the Review Notes window or the Treatment Length Notes window.

General notes can be added in the Treatment Length Notes window and can only be edited by the party that added them. For instance, the Consultant can not edit a note added by the New Zealand Transport Agency (NZTA). Review notes are added in the Shortcuts window, as explained in Shortcuts - Working In Review Mode (see "Shortcuts" on page 112).

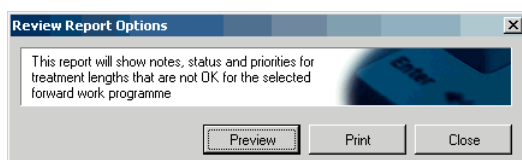


## Ending a Review

When the review of the Current Programme is complete you tell RAMM that the review is at an end by choosing the **Actions > Review > Finish** menu from the Programme Maintenance window in RAMM Manager.

## Review Report

You can look at the notes, status and priorities for the Treatment Lengths that are not alright using the Review Report. This report is available from the Programme Maintenance window in RAMM Manager by choosing the menu **Actions > Review > Report**.



The report will look something like this.

Treatment

CJN Technologies Limited  
RAMM2

User: Nigel Lynton  
Printed: Friday, 10 May 2002 15:46

Page: 1

Review report for Current Programme

SH	RS	Start (m)	End (m)	Treatment Length	Status
002	0	0	1240	Church-Timber	Changed
Treatment					
Resurfacing - Big Chip (Medium)					
Treatment (Review of Current Programme)					
Drainage Improvements (Medium)					
Resurfacing - Big Chip (Medium)					
Drainage Improvements (Medium)					
Drainage Improvements (Medium)					
002	0	0	1240	Church-Timber	Changed
Treatment					
Drainage Improvements (Medium)					
Treatment (Review of Current Programme)					
Drainage Improvements (Medium)					
Resurfacing - Big Chip (Medium)					
Drainage Improvements (Medium)					
Drainage Improvements (Medium)					
002	0	0	1240	Church-Timber	Changed
Treatment					
Drainage Improvements (Medium)					
Treatment (Review of Current Programme)					
Drainage Improvements (Medium)					
Resurfacing - Big Chip (Medium)					
Drainage Improvements (Medium)					
Drainage Improvements (Medium)					
002	0	0	1240	Church-Timber	Changed
Treatment					
Drainage Improvements (Medium)					

## Making the Requested Changes to the Programme

Making the requested changes is done the same way as developing the programme. In the Forward Work window, the **Treatments** can be moved by dragging and dropping them from where they are at present to where the New Zealand Transport Agency (NZTA) wants them to be. **Treatments** can be erased and new **Treatments** added if necessary.



### Review Status

The status is changed automatically as the programme is edited.

When the status of all the Treatment Lengths is OK the programme can be submitted to the annual plan.

Step in Process	Review Status
Consultant constructs the Forward Work Programme	Proposed
NZ Transport Agency reviews Treatment Lengths	
No changes required	OK
Changes required	Please Revise
Consultant makes requested changes	Changed
NZ Transport Agency reviews again	
No changes required	OK.
Changes required	Please Revise

---

## Forward Work Programme Costs

The cost of a Treatment Length for each year of the Twenty-Year Programme is calculated using the routine maintenance costs from the RMCE curve, the overhead cost of the Cost Set, the cost of the **Treatment** and the costs of any MIS attached to the **Treatment**. The latter two are used only if there is a **Treatment** scheduled.

- The routine maintenance cost of the pavement and the surfacing is interpolated from an RMCE curve set against each Cost Set.
- If there are **Treatments** present with an MIS attached, these MIS costs override the cost from the RMCE curve.
- A Cost Set is attached to each Treatment Length.
- The cost of a **Treatment** is attached to a Cost Set.
- The cost of an MIS is attached to each Cost Set.

## Setting Up To Calculate Costs

The following must be done to enable the estimation of routine maintenance costs:

- The **Treatment** costs for each Cost Set need to be entered.
- The MIS and MIS costs for each Cost Set need to be entered.
- The MIS for the year before and the year of **Treatment** needs to be entered against each **Treatment**.
- RMCE curve(s) need to be defined and attached to the Cost Set(s).
- Overhead costs for cyclic maintenance such as litter removal and grass mowing need to be entered for each Cost Set.
- The reset of the RMCE curve needs to be defined for each **Treatment**.

Maintaining **Treatments**, Treatment Length Cost Sets and Maintenance Intervention Strategies are discussed earlier in this document in the Preparing for Forward Work Planning section.

---

## Routine Maintenance Cost Estimation

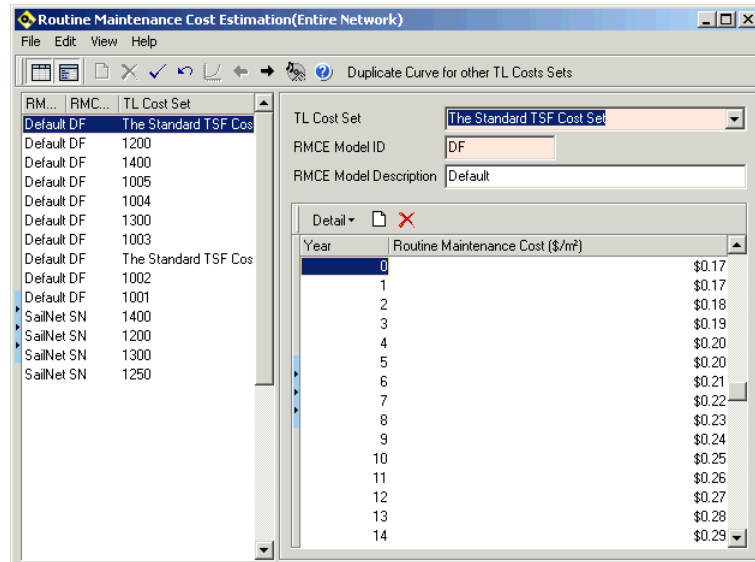
The RMCE curves are derived curves for a Cost Set. They predict maintenance costs for any number of years into the future for all Treatment Lengths within that Cost Set. The curves can be produced by analysis of historical pavement and surfacing costs by seal age.

There is a default curve in the database to provide a starting point, but Consultants will define their own curves as they analyse their region maintenance costs and work out curves that best reflect their area. How far forward the curve estimates costs will reflect the areas maintenance costs. If a large cost, such as one greater than \$100,000/km/year, is being incurred, then the curve may need to extend to a longer time frame than ten or twenty years to accommodate the initial position on the curve, calculated from previous years maintenance costs.

RMCE Curves are defined and maintained by Consultants. However, the information is retained in the database by means of the Forward Work Unload and Load that transfers it to the main databases held at the New Zealand Transport Agency.

## Maintaining RMCE Curves

RMCE Curve definitions are maintained in RAMM Manager. Access the maintenance window from the menu **Projects > Forward Work > Routine Maintenance Cost Estimation**.

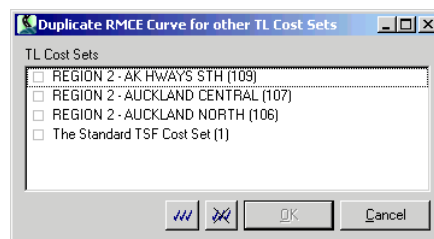


You need to define RMCE Curves for each of the Cost Sets that you have in the Security Zone. This is because the profile for different areas of the network may not be the same as each other.

### Duplicate Curve For Other TL Cost Sets

If you wish to copy one RMCE Curve definition to another Cost Set then you can do so using the **Duplicate Curve for other TL Cost Sets** button.

This displays the following that allows you to choose one or more of your other Cost Sets to copy the curve.



Select one or more of the Cost Sets and click on **OK** to copy the RMCE Curve.

Once the points on the curve have been defined, the curve is attached to a Cost Set. This is done via the RMCE tab on the Cost Set maintenance window.

The screenshot shows a software window with three tabs: 'Detail', 'Treatment Lengths', and 'RMCE'. The 'RMCE' tab is active. Inside the tab, there are two input fields. The first is labeled 'Curve' and has a dropdown menu with 'Default' selected. The second is labeled 'Overhead' and has a text box containing '\$1,000.00' followed by '(\$/km)' in parentheses.

You need to choose from the list of RMCE Curves that are available for the highlighted Cost Set.

If you have a standard Overhead charge that is to always be added to the RMCE cost at any point then enter a value here.

## Overhead Costs

The figure in the Overhead box is to cover items that are not in the Pavement or Surfacing maintenance categories, such as litter removal, verge mowing and vegetation control. This is independent of the age of the seal and is added onto the routine pavement and surfacing maintenance cost interpolated from the RMCE curve to get the total maintenance cost.

## RMCE Curve Reset after Treatment

The **Reset RMCE Curve** drop-down menu contains three options - **None**, **Reset to Midpoint** and **Reset to Zero**. This defines what change occurs to the maintenance costs in the year following the treatment.

The way that costs are calculated for the year after the treatment depends on the setting for the Reset.

### None

The curve continues on as it was. For example, if the year two years before the treatment was Year 5 of the curve, a Maintenance Intervention Strategy was applied to the next two years and the treatment did not reset the curve. The year after the treatment would then be Year 8 of the curve.

## Midpoint

The year the curve would have been on in the year of the treatment minus the life of the treatment as defined in the Treatments table, or zero which ever is greater. This is not actually the Midpoint of the RMCE curve, but it is more the midpoint of where the curve was before the treatment occurred with some adjustment for the expected life of the treatment.

## Zero

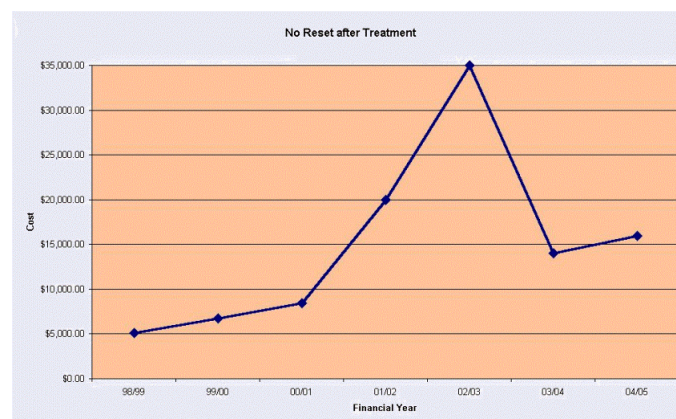
The cost at Year 0 of the curve is applied to the year after the treatment.

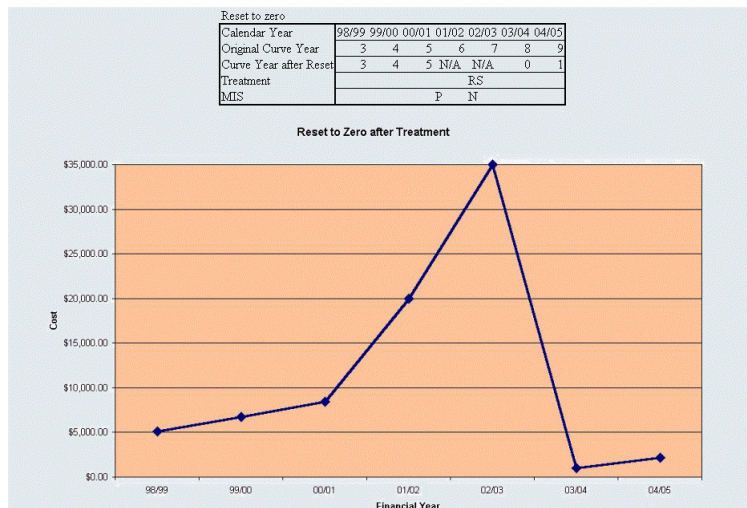
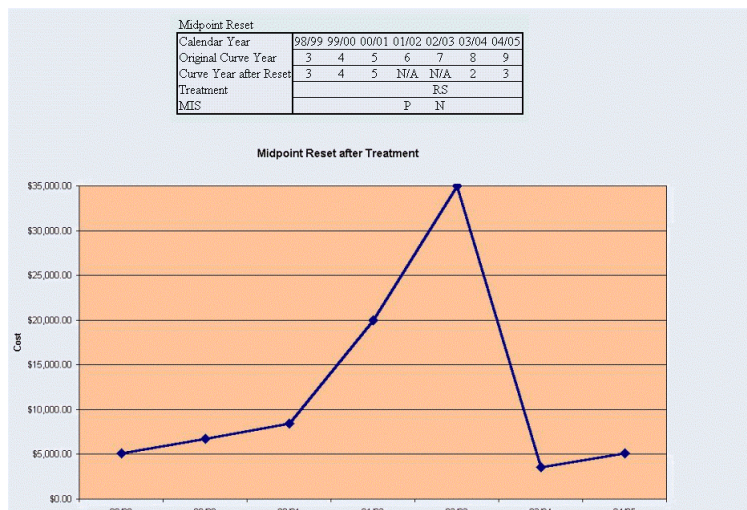
The graphs and tables below show the effects of the resets. They are based on the curve being on year three in 1998/99, with a Reseal with a five-year life (\$30,000) in 2002/03, an **MIS** of Pre-reseal repairs (\$20,000) in the year before the treatment, an MIS of Normal maintenance (\$5,000) in the year of the treatment and an overhead cost of \$1,000. Values of the curve are tabulated below.

Year	0	1	2	3	4	5
Routine Maintenance Cost	\$0.00	\$1,175.2	\$2,564.7	\$4,088.0	\$5,714.8	\$7,427.8
Year	6	7	8	9		
Routine Maintenance Cost	\$9,215.6	\$11,070.	\$12,984.	\$14,955.		

### No Reset

Calendar Year	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Original Curve Year	3	4	5	6	7	8	9
Curve Year after Reset	3	4	5	N/A	N/A	8	9
Treatment					RS		
MIS			P	N			



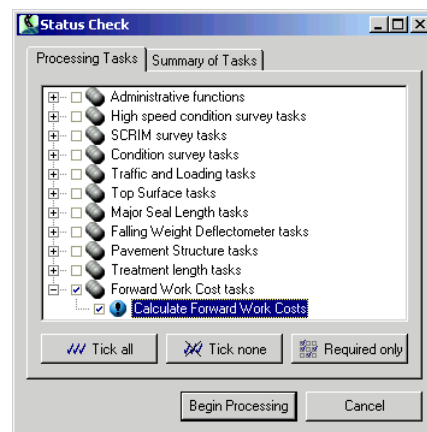


## Calculation of Programme Costs

There are two places where you can calculate the Forward Work Programme costs for both Treatments and Routine Maintenance. They are the Forward Work Balancing window or the Status Check Dialog.

## Calculating from Status Check

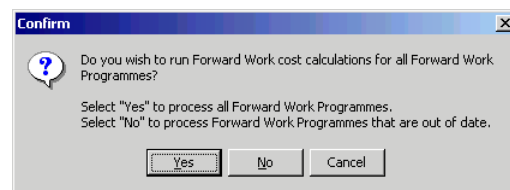
Access Status Check from RAMM Manager using the menu **Processes > Status Check**.



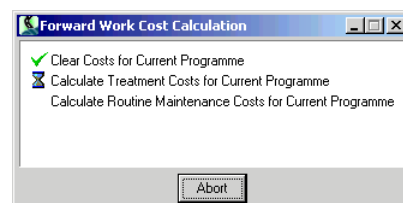
Choose the Forward Work Cost tasks and Calculate Forward Work Costs.

If RAMM knows that the Forward Work Costs are out of date then this item will already be ticked.

Once you begin processing you will see the following dialog asking you if you wish to calculate the costs for all Forward Work Programmes in the database or only those that are flagged as needing to be updated.



Choose either option and you will see a process dialog similar to the following.



One of these dialogs will be displayed for each of the Forward Work Programmes where the costs are being calculated. As you can see this process will calculate the Treatment Costs followed by the Routine Maintenance Cost Estimates.

## Calculating from Balancing

Open the Forward Work Balancing window and choose the menu **Actions > Calculate** to start the process running.

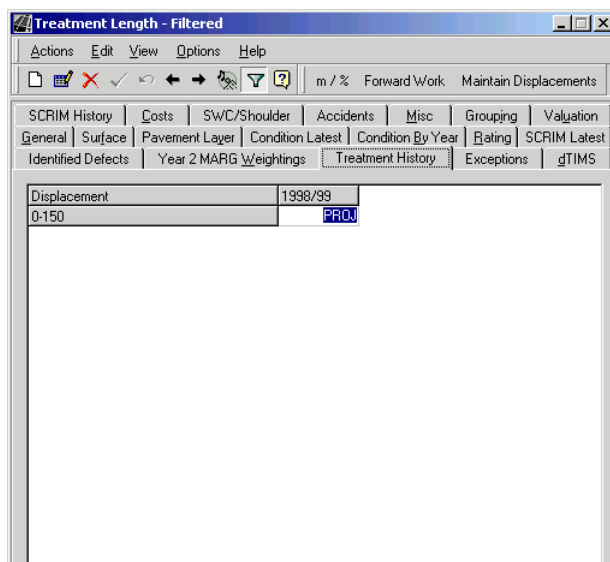
This will then run the same processes as described above to calculate the Treatment and Routine Maintenance costs.

---

## Looking at the Treatment History

When an End of Year Rollover has occurred any work that was planned in Year 1 will be moved into the Treatment History.

If you wish to see what Treatments have taken place in the past you can do so by referring to the Treatment Length. The Treatment History tab is available on the Treatment Length Detail window in RAMM.



Any historical Treatment that took place on the Road and whose location falls wholly or partially within the Treatment Length displacements, will be shown here.



# Lookup Codes

A Lookup is a set of column values which is selectable from drop-down lists in **RAMM** screens.

Maintenance of look up tables is available in RAMM Manager. Some look up tables are nationally controlled and the balance require some liaison with the New Zealand Transport Agency Regional staff before adding, changing or deleting entries. The data relationship between these tables is complex and care should be taken when maintaining them.

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## Preparing for Forward Work Planning

This section details what you need to do before you can set up and maintain a Forward Work Plan. We will look at creating an empty plan, setting up Treatments, Reasons and other supporting information.

---

## Twenty-Year Programme

The Forward Work Programme summarises maintenance and improvement treatments for all Treatment Lengths. The programme is prepared for the subsequent 20-year period.

Controlling network management at project level is a continuous process. Constant assessment, reassessment and adjustment of treatments, Treatment Lengths and Maintenance Intervention Strategies are required.

Pavement Maintenance Management is a dynamic process. As the pavement ages, deterioration will occur in different ways and at different rates. Continual assessment of the appropriateness and success of programmes and strategies will lead to quality decisions being made for future programmes and strategies.

The alignment of understanding between Client, Consultant and Contractor should result in feedback being provided from all these parties.

---

## National and Local Lookup Tables

Maintenance of look up tables is available in RAMM Manager. Some look up tables are nationally controlled and the balance require some liaison with the New Zealand Transport Agency Regional staff before adding, changing or deleting entries. The data relationship between these tables is complex and care should be taken when maintaining them.

## Nationally Controlled Information

Information in these tables is maintained by the New Zealand Transport Agency (NZTA) at Head Office. If you want to update or add to any of this information, please contact NZTA at your Regional Office and they will approach Head Office with your request. Updated national tables, for your Network Management Area, can be unloaded from the main database at Head Office, using National Table Export. When you receive the file you can load it into your regional database using the National Table Import.

Nationally controlled information includes:

- Funding Groups
- Maintenance Intervention Strategies (excluding costs)
- Note Types
- Primary Motivators
- Reasons
- MARG Factors
- MARG Weightings
- MARG Activity/Defect Relationships
- Safety Intervention Strategies
- Treatments (excluding costs)
- Treatment Groups.

## Locally Controlled Information

The following information must be developed locally to suit the needs of the Network Management Area:

- Treatment Length Cost Sets
- Treatment Costs
- Maintenance Intervention Strategy Costs
- Routine Maintenance Cost Estimation.

Having established the tables, the Treatment Length - Cost Set link must be established locally and the treatment costs for each Cost Set generated. Cost Sets operate in a similar manner to the Cost Sets that we are familiar with in the RAMM Treatment Selection Algorithm (TSA).

Locally entered data are transferred back to the New Zealand Transport Agency (NZTA), for input into the main database, using the Forward Work Unload/Load processes.

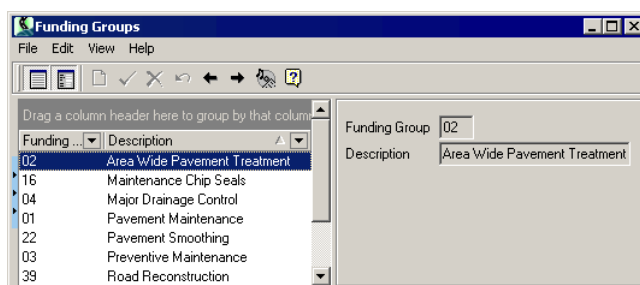
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## Funding Groups

Funding Groups represent a generic grouping of treatments into items under which funds will be sought. Grouping will be established on the basis of the criteria established in the Programme and Funding Manual.

## Maintaining Funding Groups

Access the maintenance window from RAMM Manager using the menu **Projects > Forward Work > Funding Groups**.



Funding Groups can only be maintained if you are logged in to the Entire Network Security Zone. Contact the New Zealand Transport Agency (NZTA) if you want to add or update any Funding Groups.

Updated Funding Group information can be delivered to the Consultant using the National Table Export/Import.

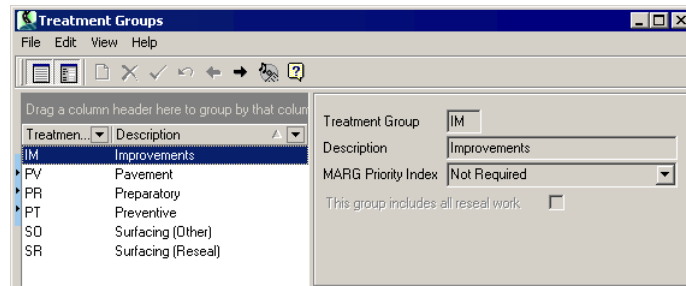
---

## Treatment Groups

Treatment groups are established for network management purposes.

## Maintaining Treatment Groups

Access the maintenance window from RAMM Manager using the option **Projects > Forward Work > Treatment Groups**.



Treatment Groups can only be maintained if you are logged in to the Entire Network Security Zone. Contact the New Zealand Transport Agency (NZTA) if you want to add or update any Treatment Groups.

Updated Treatment Group information can be delivered to the Consultant using the National Table Export/Import.

Some areas of Forward Work Planning need to know which Treatments indicate Reseal work. To do this a flag is set against only one of the Treatment Groups to indicate that all the Treatments that are part of this Group are Reseal.

Setting this flag for one of the Treatment Groups will automatically cause all other Groups to have the flag set to Not Reseals.

The MARG Priority Index is used to indicate whether or not Treatments belonging to this Group contribute to the Reseal Index or Pavement Area Treatment Index.

---

## Treatments

Forward Work Programme Treatments are simply descriptors of the type of work to be carried out in order to maintain a length of Network - a Treatment Length.

In the Forward Work Programme we use a cell to indicate each of the Planning Years for a Treatment Length. If the cell is left blank with no Treatment assigned, then we assume that only Routine Maintenance is taking place at that location.

When we calculate the cost of maintaining a Treatment Length in a given cell (Financial Year) we need to take into account a number of factors. For instance, the last Treatment to take place and the Routine Maintenance costs in the last year need to be considered.

We may not need to apply the selected Treatment to the entire Treatment Length.

So it is possible to indicate that a Treatment is to be applied to a percentage of the Treatment Length.

This coverage percentage is used when calculating the cost of a Treatment. Percentage coverage can be set to apply to all Treatments but it is principally intended for work such as drainage improvement which would normally apply to only a part of the Treatment Length.

When defining a new Treatment you can indicate whether to allow a Percentage Coverage by setting the appropriate flag.

Treatments are defined nationally by the New Zealand Transport Agency (NZTA) who have control over this Master List. Consultants can have access to new or updated Definitions by either selecting them from the Master List or using the National Table Export/Import (see "National Tables Export" on page 170).

## Treatment Applicability

Not all Treatments are available for use in the Forward Work Plan in any given Planning Year. The more general the Treatment definition the further out in the Programme you would use it.

All Treatments defined in Forward Work Planning are assigned to one of the following Programme Periods:

- Years 1 to 4.
- Years 1 to 10.
- Years 1 to 20.
- Years 3 to 10.
- Years 11 to 20.

Over time, processes such as the End of Year Rollover (on page 162) may cause some Treatments to move from a Year where they are valid to one where they are not. RAMM provides a report to allow you to quickly find these cases so that you can replace the Treatment with one more applicable to the Planning Year.

## Treatment Life

Each Treatment is expected to be effective for a limited period of time. This Treatment Life may vary between the different parts of your network. A Suggested Life is provided for each Treatment. This is defined by the New Zealand Transport Agency (NZTA). However, since the Life of the Treatment can be different in each of the Security Zones, Consultants have the ability to assign their own value for the Treatment in their Network Management Area.

## Inactive Treatments

Over time Treatment definitions may change and there will be definitions that you no longer wish to be used in your Forward Work Programme. However, they may still be recorded in the Treatment History of work that has been completed in previous years.

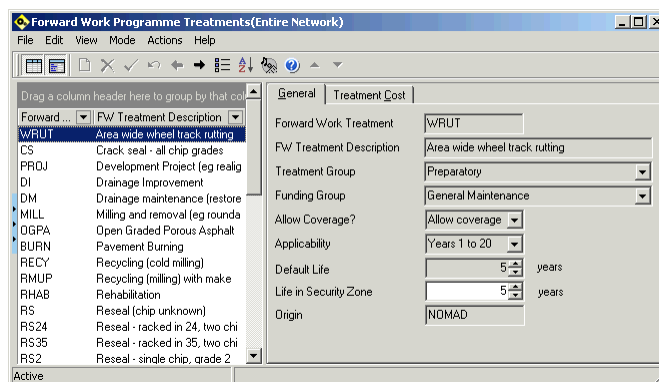
To ensure the history is retained you can flag Treatments as being Inactive. However, this does not automatically mean that those Treatments are removed or replaced in the Current or Alternative Programmes. To assist you to find Inactive Treatments in your plan RAMM provides an Inactive FWP Treatments Report (see "Inactive Treatments Report" on page 81).

## dTIMS Treatments

RAMM Forward Work Planning (FWP) can import information from a dTIMS analysis (see "dTIMS Analyses and Forward Work Planning" on page 168) and record it as an Alternative Scenario. The definitions for dTIMS Treatments are imported and recorded with the FWP Treatments. RAMM then flags all Treatments as originating in either FWP or dTIMS.

## Maintaining Treatments

RAMM maintains a Master List of Forward Work Programme Treatments. This can be accessed only by someone logged in to the Entire Security Zone. Using RAMM Manager, follow the menu path **Projects > Forward Work > Treatments**. Once the screen is displayed you follow the menu path **Mode > Master List**.



You assign new Treatments to Funding and Treatment Groups. You must also state for which Programme Period the Treatment is applicable. The default Suggested Life for a new Treatment is five years. You can change this. Select the Allow Coverage option to allow your new Treatment to apply to a percentage of the Treatment Length. If Coverage is not allowed, the Treatment will be assumed to apply to 100% of the Treatment Length. To indicate that a Treatment may no longer be used in Forward Work Programmes, follow the menu path **Actions > Active** and clear the option. Although the Treatment can no longer be used for future work, it may still be recorded in the Treatment History.

The RAMM report Inactive FWP Treatments (see "Inactive Treatments Report" on page 81) can be used to determine where Inactive Treatments are present in the Programmes so that they can be replaced with a more appropriate alternative.

### Treatment Life

Treatments may have different lives depending on the local conditions in part of the Network in which you are working.

To handle this, Forward Work Planning allows you to define a different Life for the Treatment for each Security Zone in the database.

When you select a Treatment from the Master List for use in the Security Zone, the Treatment Life will default to the Suggested Life from the New Zealand Transport Agency (NZTA)

You can adjust this to suit your local conditions.

The Treatment Life within the Security Zone is used for calculating which year from the RMCE curve will be used after a treatment with a curve reset of Reset to Midpoint.

How it is involved is explained in RMCE Curve Reset after Treatment (on page 120).



The life listed in the treatment table is different from that listed in the surface life table because traffic factors have been left out in order to simplify things.

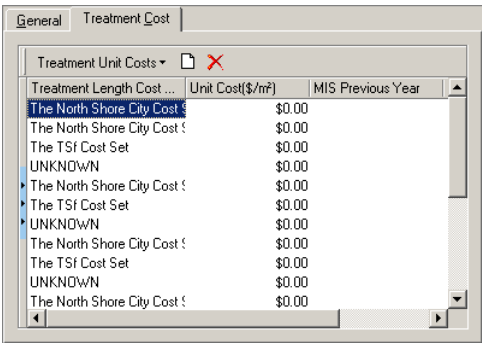
The calculation would become too complex and time consuming if the balancing programme had to take all the traffic volumes on the Treatment Length in order to determine the life of the Treatment.

Treatment Costs

The cost of applying a Treatment will vary between and within Network Management Areas (Security Zones) as a result of local conditions.

RAMM allows you to record the cost for each Treatment for each of the Cost Sets that have been defined.

The section on Treatment Cost Sets (on page 133) has a more detailed explanation of their definition and use.



Treatment Cost Sets

In the Forward Work Programme, Treatment Cost Sets are synonymous with the Cost Sets used in Treatment Selection. They are known by the same name and apply over the same area.

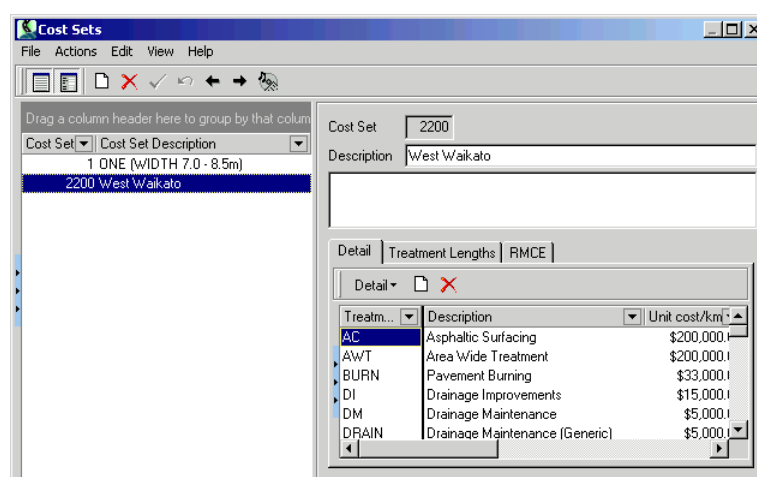
To change the Cost Set with which a particular Treatment Length is associated, you edit the Cost Set field on the Treatment Length screen. This change will then apply to both Treatment Selection and the Forward Work Programme financial calculations.

Treatment Cost Sets are defined for Security Zones and will only apply within them. However, a given Treatment Length can only have one Cost Set associated with it.

In all cases the Treatment Costs are based on units of \$/m<sup>2</sup>.

## Maintaining Treatment Cost Sets

Access Treatment Cost Sets through the RAMM Manager menu **Maintenance > Lookups > Carriageway > Cost Sets**.



Cost Sets can be defined either by the New Zealand Transport Agency (NZTA) or the Consultant.

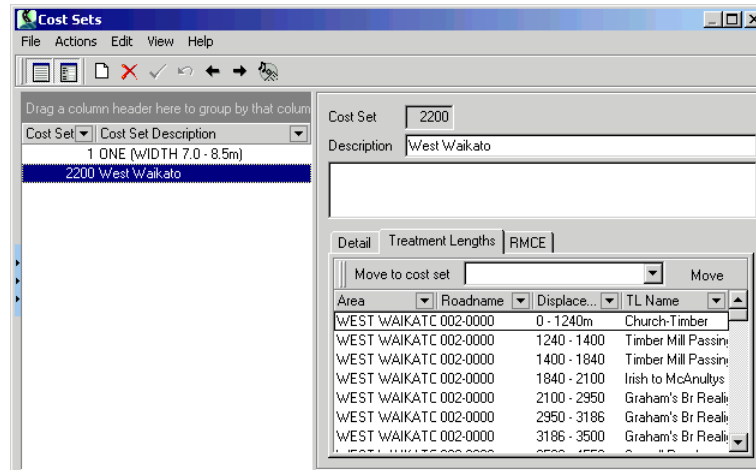
New Cost Sets are automatically numbered according the range allowed for each Security Zone.

If no range is defined for the Security Zone as may apply in a Local Authority database, then the Cost Sets will be numbered from one (1).

When you insert a new Cost Set RAMM will automatically create one row for each of the active Treatments that are flagged with an Origin of NOMAD.

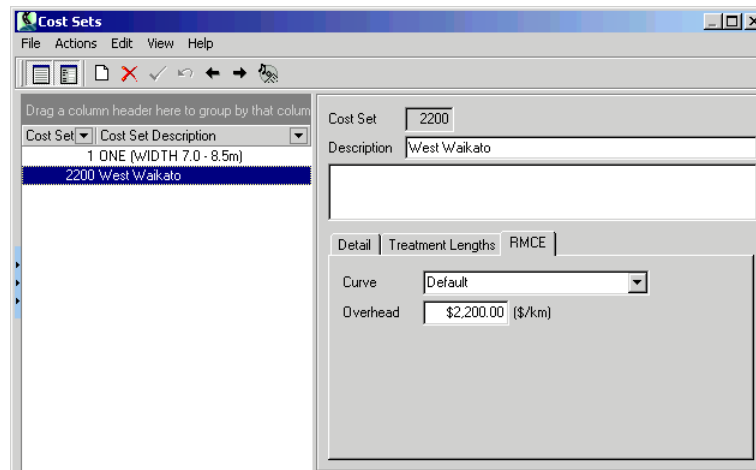
The Unit Cost, which is expressed in \$/m<sup>2</sup>, will default to zero (0) and can be updated as required.

This information is the same as that displayed for individual Treatments on the Treatment maintenance window and you can edit it from either place.



### Cost Set Treatment Length

This window also allows you to define which Cost Set each of the Treatment Lengths will use. Although you can assign a Cost Set by maintaining the Treatment Length in RAMM, you can also do it here by highlighting one or more Treatment Lengths, selecting a Cost Set from the Move to cost set combo box and clicking on the **Move** button.

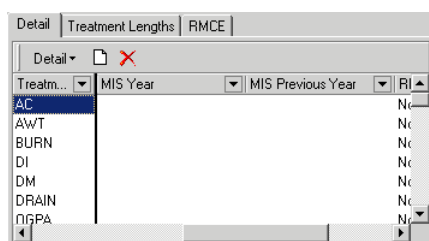


### Routine Maintenance Cost Estimation

If you intend using Routine Maintenance Cost Estimation (RMCE) you will need to define an Overhead Cost to the Cost Set and associate it with a RMCE Curve.

Additional information on the Detail tab that is used in the RMCE calculation is the Maintenance Intervention Strategy which is to be applied to the year in which the Treatment takes place and that for the year just previous to the one where the Treatment takes place. Maintenance Intervention Strategies (on page 165) have costs associated with them and so impact on the RMCE.

Finally on the Detail tab is a RMCE Reset option. This also has an impact on the RMCE calculation and needs to be considered if you wish to use this functionality.



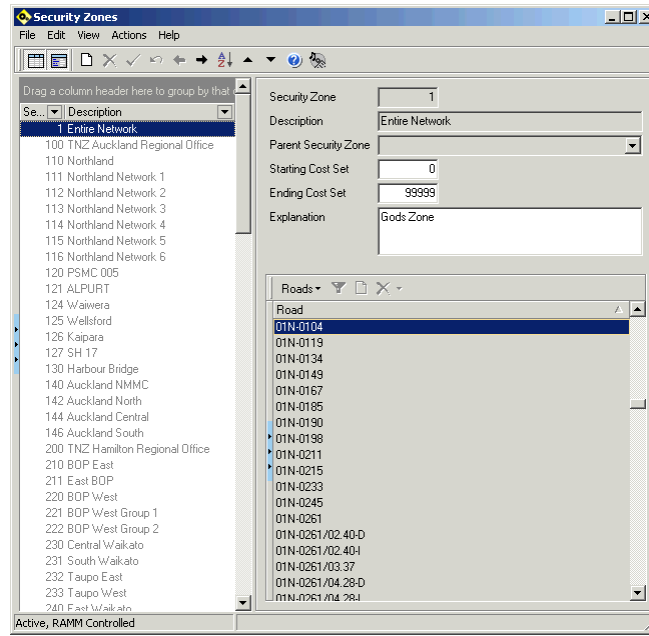
This table holds all the **Treatments** that are recognised in the database as well as the groups they are in (funding and treatment), their expected life and their unit costs by Cost Set.

The pull-down menus titled MIS (Year of Treatment) and MIS (Year Preceding) are where the MIS for the treatment are attached. If an **MIS** is selected for either of these years, the maintenance costs given by the RMCE curve will be overridden with the figure defined in the Maintenance Intervention Strategy window for the particular Cost Set. For example, if the treatment was a reseal, the MIS for the year preceding the reseal may be Pre-Reseal Repairs (to reflect the increased of maintenance to bring the Treatment Length to the ideal condition for sealing) and the MIS of the year of the Treatment may be normal maintenance (to keep the Treatment Length in the same condition).

The Consultant needs to decide what the MIS (if any) will be for each treatment. If it is decided there will be no special maintenance for a Treatment then leave the two MIS columns blank. For example, a Treatment such as shoulder grading may have no impact on the interpolated costs and accordingly the MIS will be left blank.

## Maintaining Cost Set Ranges

The New Zealand Transport Agency (NZTA) defines the range of allowed Cost Set Identifier values. Each Security Zone is assigned its own unique range.



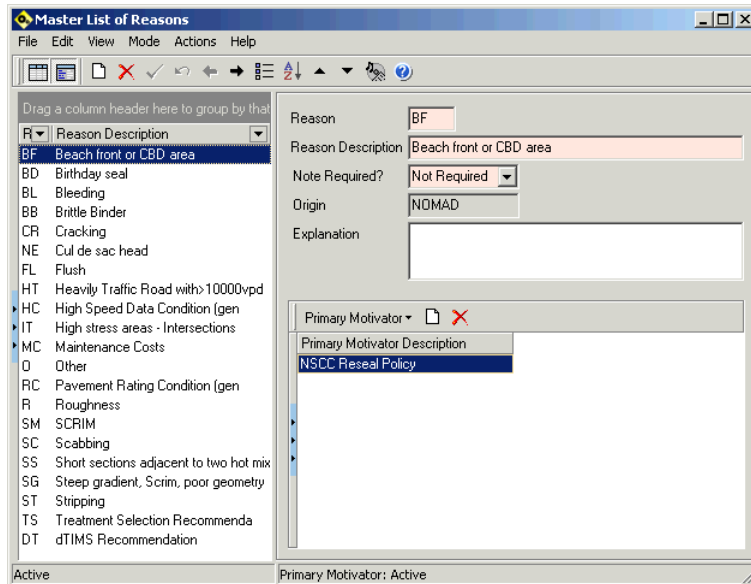
You maintain Security Zones in RAMM Manager using **Maintenance > Security Zones**. Take care if the Security Zone Cost or Set Number is changed in one database and not the other. There may then be problems with the transfer of information between the NZTA and Consultants. The Forward Work Load may reject the file Unloaded from the other database. If the Cost Set Number Range overlaps that assigned to a Security Zone which is not its parent, then the FWP Load may overwrite the wrong definition and vital information will be lost.

## Reasons

Reasons are the explanations of why a given Treatment will be carried out when maintaining a Treatment Length. One or more reasons must be entered for every Planning Year in the first three (3) years, when you assign at least one Treatment.

## Maintaining Reasons

The New Zealand Transport Agency (NZTA) maintains the Master List of Reason Definitions. The Master List can be accessed in RAMM Manager by following the menu path **Projects > Forward Work > Reasons**. You will need to be logged in to the Entire Security Network Zone and once the screen opens, change to the Master List by following the menu path **Mode > Master List**.

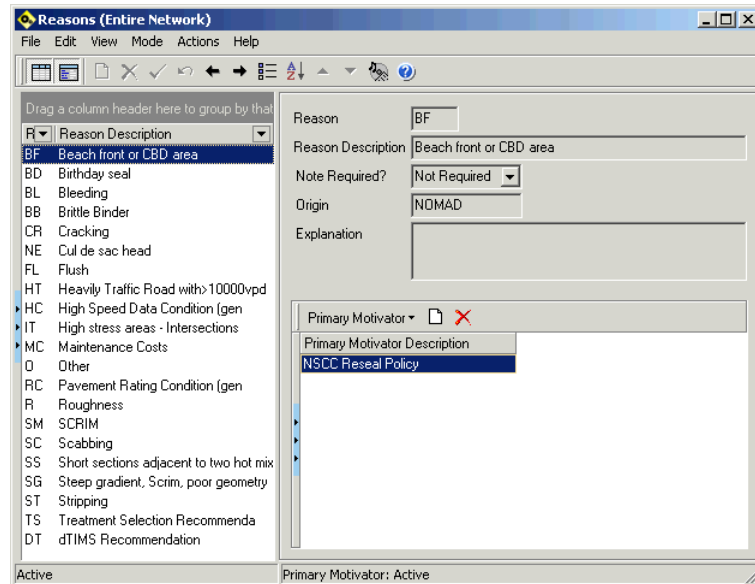


When inserting a new Reason Definition you will need to supply the Code and the Description.

Each Reason can have none, one, or more Primary Motivators associated with it. A Primary Motivator is a definition of the underlying cause for the Reason when it has been assigned to a planned Treatment. For example, you may have assigned a Treatment of Reseal to a Treatment Length. The reason may be because of Cracking, but the underlying reason for the cracking is a deterioration of Pavement Performance. This Pavement Performance is the Primary Motivator.

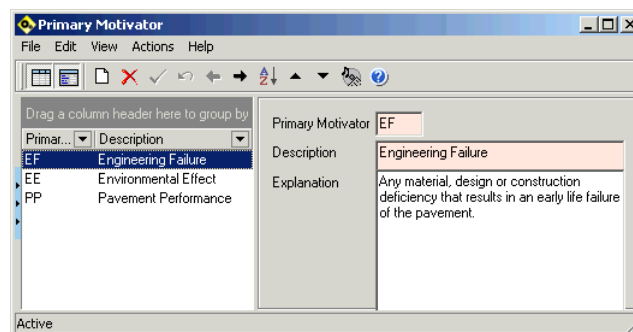
You can tell RAMM that you require further details to be entered into the Programme when a given Reason is assigned. You do this by selecting Required from the Note Required drop-down list. This ensures that RAMM requests a Reason Note to be entered whenever this Reason is used.

When you save a new Reason Definition you will be asked if you wish to add it to the Security Zone.



## Primary Motivators

The New Zealand Transport Agency (NZTA) maintains the list of Primary Motivators. You need to log in to RAMM Manager using the Entire Network Security Zone. The Primary Motivator Definitions are accessed by following the menu path **Projects > Forward Work > Primary Motivator**.



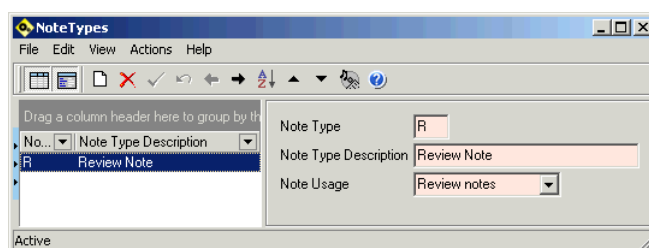
When entering a new Primary Motivator you will need to supply both a Code and Description. You can include some notes if you wish.

## Note Types

Note Types are used to categorise the free format notes available for entry against the Current Forward Work Programme or any alternative scenario.

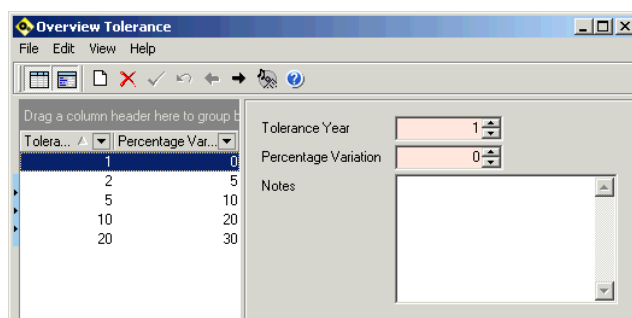
## Maintaining Note Types

Note Types are defined by the New Zealand Transport Agency (NZTA). You will need to log in to the Entire Network using RAMM Manager and following the menu path **Projects > Forward Work > Note Types**. Updated Note Types are immediately available for use within all Security Zones or can be obtained from NZTA by using the National Table Export/Import process. See National Table Export/Import process (see "National Tables Export" on page 170).



## Maintaining Overview Tolerances

This screen allows you to set up Tolerance Years and a percentage variation for each. These are defined by the New Zealand Transport Agency (NZTA). You log in to the Entire Network Security Zone using RAMM Manager and follow the menu path **Projects > Forward Work > Overview Report Tolerances**. These options control how the Overview Report (on page 103) is generated.





# Managing Programmes

Programme Maintenance allows you to manage multiple Forward Work Programmes.

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## Programme Maintenance

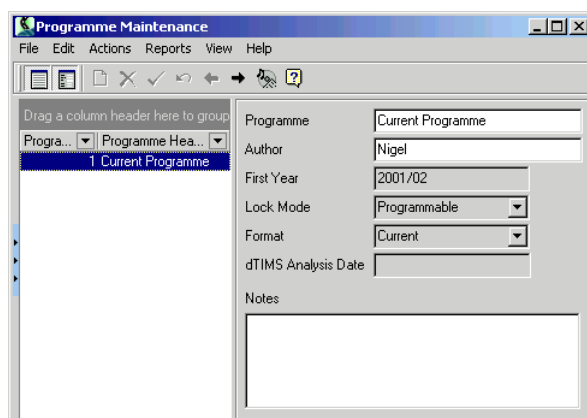
Programme Maintenance allows you to manage multiple Forward Work Programmes. When you next use the Forward Work Programme features within RAMM for Windows you will be able to choose the Programme to work with. Use this window to copy, print and manage your Programmes.

Programmes can also be transferred into and out of the Master Current Programme from here.

---

## Maintaining Forward Work Programme Headers

The maintenance of Forward Work Programme Headers is carried out in RAMM Manager from the menu **Projects > Forward Work > Programmes**.



If you do not have any Forward Work Programmes defined in your database then the first time that you enter this window a Current Programme will be automatically created for you. By default the name of this Programme will be Current Programme but you can change this at any time.

Apart from the name of the Programme, the Author and the Notes nothing else on this window can be changed by directly editing the field on the window. All changes and other maintenance functions are accessed from the Actions or Reports menus.

## First Year

The First Year indicates the Financial Year corresponding to Year 1 of the Forward Work Programme. Year 1 is the Current Financial Year and any work planned for that year should have been approved and already be taking place. The First Year changes only when you perform an End of Year Rollover on the database. This is a New Zealand Transport Agency (NZTA) function that is described more fully in our section on End of Year Rollover (on page 162).

## Lock Mode

The Lock Mode is an indication of the state of the Programme. It can be Programmable, which means that you can maintain full details of the Programme, Locked, which means that you can not change the Programme, or Review only, which means that the Programme has been created as a copy of the Current Programme for use during the Review. See the section on the Reviewing the Forward Work Programme (on page 106) for more details. As a Consultant, any changes that you make to a Programme that you have unlocked may be lost when the New Zealand Transport Agency (NZTA) returns a copy of the database to you.

## Format

The Format of the Programme can be Current, Archived, Linked, or dTIMS Recommendation. Only one Programme can be the Current Programme. Copies of the Current or other Programmes are set with a Format of Linked. If you choose to Archive a Programme then the Format will be set to Archived. Archive Programmes retain only their cost information. All other information will be lost.

Only Programmes that have been loaded from dTIMS Analysis data will have the Format of dTIMS Recommendation.

## dTIMS Analysis Date

The dTIMS Analysis Date is information that is loaded from the dTIMS Analysis and indicates the date when that analysis was carried out in dTIMS. It is not the date when you loaded the analysis into RAMM but the date, from dTIMS, when the analysis was carried out.

## Actions > Duplicate

This option will create a copy of the highlighted Programme. By default the new copy will have the same title as the original with the text "Copy of" prefixed. You can rename it to suit yourself.

This programme will also be given the Format of Linked to indicate that it is not the Current Programme, but is derived from it.

## Actions > Lock/Unlock Programme

Use this menu to either lock a Programme that is Unlocked or to unlock a previously Locked Programme. You can lock a Programme yourself if you wish to ensure that you do not accidentally change any of the details. If you unload a Programme using the Forward Work Unload/Load it will automatically be locked. You can still unlock an unloaded Programme but you will be warned that any changes you make may be lost if the Programme is returned. Returning a Programme through the FWP Load will also unlock it.

## Actions > Make Current

Use this option to set the highlighted Programme to be the Current Programme. Remember, that only one Programme can be Current at any one time, so setting the highlighted Programme to Current will cause the former Current Programme to be set as Linked. This is not available for Archived Programmes or those loaded from a dTIMS Analysis.

## Actions > Review

These options are used when reviewing a Programme. See the section on the Reviewing the Forward Work Programme (on page 106).

## Actions > Acquire Master Current Programme

When you log in to a Security Zone other than the Entire Network, you will have your own Current Forward Work Programme. You maintain this Programme for the Treatment Lengths in your part of the Network. You use this option to take a copy of that part of the Master Current Programme associated with your portion of the Network and put it into your Current Programme. You can simply overwrite your Current Programme or take a copy of it first.

## Actions > Add to Master Current Programmes

During the course of the year a Consultant will be maintaining the Current Forward Work Programme associated with their Network Management Area or Security Zone. At certain times of the year the New Zealand Transport Agency (NZTA) will require the latest version of the Consultant's Programme to be added into the Current Master Programme.

This is a two step process. When you are logged in to a Security Zone other than the Entire Network, you highlight the Current Programme and select this option. A flag will be set which notifies NZTA that the Programme is ready to be transferred.

NZTA logs in to the RAMM Manager using the Entire Network Security Zone. This will give access to the Master Current Programme. Highlight the Programme and access the Save option. Any Programmes which are ready to be transferred will be listed and you can bring them in to the Master Current Programme.

## Actions > Set FW Treatment on Surf/Pavement

Surfacing and Pavement Layer data can be associated with the corresponding Forward Work Programme Treatment. This process takes this information from year one (1) of the Current Forward Work Programme and, where possible, populates the Treatment to the Surfacing and Pavement Layer records. The Forward Work Treatment History will also be checked to see if any previous surfacing or Pavement data can also be updated.

## Reports > Detail Report

This is another way to access the Forward Work Detail Report. Please see Forward Work Detail Report (on page 96) for more information.

## Reports > Review

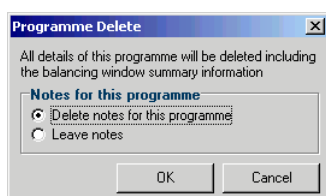
This option is used when reviewing a Programme. Please see the section on Reviewing the Forward Work Programme (on page 106).

## Deleting a Forward Work Programme

You can not delete the Current Forward Work Programme in RAMM. If you genuinely wish to delete the Programme you are currently working on, you must first set one of your Alternative Scenarios to be the Current Programme. You will then be able to delete the one which was the Current Programme.

If the Programme you are deleting is a copy of the Current Programme, then you will be prompted to confirm the deletion but having done that the Programme will be deleted.

However, if the Programme that you intend deleting is one created as part of a Review of the Current Programme then you will see the following dialog displayed.



You can then choose to keep the Review Notes from the Programme you are deleting or to remove those as well.

---

## Programme Development

The Twenty-Year Programme produced by the intellectual process is an indicative assessment.

Rehabilitation and improvement works identified are then subject to more rigorous economic and engineering scrutiny.

Once funding levels are confirmed, the Twenty-Year Programme will be reviewed to ensure rejected proposals have appropriate **Maintenance Intervention Strategies** applied.

---

## Preparing the Forward Work Programme

The site assessment should identify possible solutions.

These need to be costed and quantified against economic criteria or by economic awareness to determine the most economically acceptable solution.

A priority will need to be allocated against each treatment.

Treatments may be determined by referencing other sources of information. This may include safety improvements or other improvement works separately investigated.

The status, timing and economic viability of these projects will need to be determined and recognised prior to inclusion in the Twenty-Year Programme and allocation of a Maintenance Intervention Strategy.

---

## Maintenance Functions

Maintenance of the Twenty-Year Programme and supporting files will generally follow the following pattern.

- 1 Maintain look up tables.
- 2 Review treatments.
- 3 Review and maintain Cost Sets.
- 4 Review Maintenance Intervention Strategies.
- 5 Review Safety Intervention Strategies.
- 6 Review intervention levels for the exception reporting.
- 7 Run exception reports (Treatment Lengths generating an exception in condition data will be flagged).
- 8 Review treatments - office exercise. Use the exceptions generated and/or associated condition data.
- 9 Review treatments - field review.

---

## Performance Monitoring

The constant evaluation of the degree of success of selected treatments will enable greater confidence to be provided to future treatment selection evaluations. Performance monitoring and the associated feedback is critical to the development of the intellectual process.

---

## Assessing Your Data

Prior to any field assessment of Treatment Lengths being made, data needs to be collated and interpreted to determine the trends and exceptions described in Trends and Exceptions (on page 90).

## Importance

The bulk of maintenance expenditure is likely to occur over a small percentage of the network. When cumulative expenditure is plotted against cumulative length, 65% of expenditure occurs over 20% of the length of the network.

Data collection and analysis will allow the 20% of the network with high maintenance costs to be more readily identified and **Treatments** and **Maintenance Intervention Strategies** formulated to reduce maintenance costs. An improvement in maintenance programmes and strategies will result in a trend towards a straight line (even) distribution of needs.

---

## Assessing the Programme in the Field

Treatment Lengths that have trends and exceptions noted are targeted for field assessment. The field assessment will require visual inspection of the site to determine:

- Is there is a problem as indicated by the trend or exceptions?
- Is there is any other problem associated with the site?
- What is the cause of the identified problem?
- What is the extent of the problem?
- Is local or area treatment appropriate?
- What are acceptable solutions?

---

## Unloading Programmes

Use the Forward Work Unload function to unload a selection of programmes to be delivered to the New Zealand Transport Agency (NZTA).

## Programmes

Programmes to be unloaded can be chosen from a list containing all programmes in the database. Programmes changed or created since the database was downloaded are automatically checked. The **Current Programme** is automatically included in the programmes to unload and can not be unchecked.

**WARNING:** Any changed programmes that are not sent will not appear in the next database downloaded by the Consultant.



## Unload

During the unload, the status of treatments is switched from Changed to Proposed for each chosen programme and the programmes Locked.

The programmes are locked to prevent changes being made until a new database is downloaded by the Consultant.

Programmes downloaded from the New Zealand Transport Agency (NZTA) are always Unlocked.

To unlock a programme yourself and continue working with it, use the **Projects > Forward Work > Programmes** menu option in RAMM Manager.

If you do this you must ensure another Unload is sent before you next download a database from NZTA or your work will be lost.

## Save as type

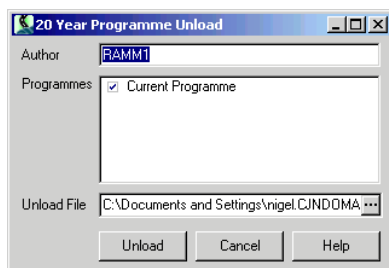
All data for the chosen programmes is unloaded to a single compressed file with an .FWU extension.

## Email

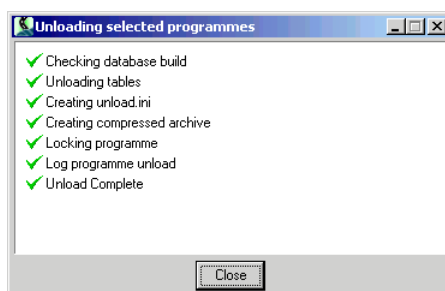
The .fwu file created can be emailed to the New Zealand Transport Agency (NZTA) for loading into their programme.

## Programme Unload (NZ Transport Agency/Consultant)

After giving RAMM Manager exclusive access to the database, you choose **Projects > Forward Work > Unload**. The Status on the unloaded programmes changes to locked when either user unloads. The status automatically changes to locked to prevent any changes being made while the other party has the programme, as these changes will be lost if they are not unloaded before the programme received from the other party is loaded. The programme can be unlocked in RAMM Manager using the menu **Projects > Forward Work > Programmes**, select the programme, then **Actions > Unlock Programme**.



Choose the destination directory and the name for the Unload file and press **Unload**.



Press **Close** and the file is ready to be sent to the New Zealand Transport Agency (NZTA).

---

## Loading Programmes

The Programme Load wizard is used to load Programmes, sent by Consultants, into the New Zealand Transport Agency (NZTA) database. This simplifies choices on which programmes to load, whether or not to create a copy of the programmes being overwritten and managing alternative scenarios. The contents of the load file are displayed and the programmes to be loaded are offered.

## Loading Implementation Steps

The following implementation steps are carried out by the New Zealand Transport Agency (NZTA) before unloading the database for dispatch to Consultants.

### ► Loading Implementation Steps

- 1 Maintain nationally controlled lookup tables (see "National and Local Lookup Tables" on page 126).

- 2 Summarise Treatment Lengths. This process summarises key data to the Treatment Length level. For example, roughness statistics (mean, maximum, etc). The database will then be unloaded and released. Implementation should then continue as below.
- 3 Complete lookup table creation - Regionally controlled tables. (Liaison with Regional NZTA Staff is essential)
- 4 Maintain Treatment Lengths. Maintain the system generated Treatment Lengths to match the physical layout appropriate. The Generate Treatment Length process will create Treatment Length joints at all Major Seal Joints. These may not match the joints considered appropriate locally.
- 5 Maintain the Cost Sets attached to the Treatment Lengths. The generate function defaults these to the same Cost Sets currently attached for treatment selection. If these are not adequately set up to reflect changes in costs associated with **area treatments**, maintenance will be required.
- 6 Attach Treatments, Reasons, Maintenance Intervention Strategies, Safety Interventions, Priority and Notes to the Treatment Lengths.
- 7 Check for the appropriateness of the balance of the programme. This step involves consideration of the total length and cost of the various treatments across the twenty year planning period: essentially, looking for peaks and ensuring that they are justified. Some re-evaluation of treatments may be required to achieve an appropriate balance.

The programme is then ready for downloading and returning to NZTA.

## To Load Programmes

### ► How To Load Programmes:

- 1 Create a backup of the database. Use the database backup facilities in RAMM Manager (**File > Backup Database**) to create a backup of your database.
- 2 Select a Forward Work Archive. Select the forward work archive file (.fwu file extension) sent from the consultant.
- 3 After selecting the archive, use the load wizard to select load options. Up to three windows are presented:
  - *Programme Contents* - shows the programmes being delivered and the contract areas covered.
  - *Treatment Lengths have Changed* - only shown if the consultant has changed Treatment Lengths.
  - *Programmes Under Review* - only displayed if programmes are being reviewed.

Once the load routine is completed, the database into which the load was performed has an exact copy of the Treatment Lengths and programme information unloaded from the consultant's database.

## Load Programme Contents

All programmes in your database are displayed in this panel plus new ones created by the consultant. Columns are used as follows:

- **Current**  
This shows the **Current Programme** on your database.
- **Received**  
this is ticked for all programmes changed and returned by the consultant or shows New for all new programmes
- **Copy**  
Tick any programmes being returned if you want a copy saved before loading the consultant's version. The copy can be viewed and maintained just like other alternative or scenario programmes.

## Loading Changed Treatment Lengths

This window is displayed because the Treatment Lengths in the database are different from those delivered from the consultant. The new or changed Treatment Lengths from the consultant will be loaded, replacing any Treatment Lengths covering the same carriageway length. Only Treatment Lengths for the contract areas being loaded are changed.

The **Treatments** in alternative scenario programmes covering these Treatment Lengths will be cleared. If a new programme has not been delivered by the consultant, there are two options for how to deal with these Treatment Lengths that have no forward work programme:

- Blanks - leave the programme blank.
- Current - schedule the same treatments scheduled in the **Current Programme**.

## Loading Under Review

This window shows programmes currently in Review. If a programme is received while a review is under way you must decide whether to delete the review and restart from scratch or continue with the review. If you choose to continue you may have already made comments about **Treatments** that the consultant has now changed. The comments may be irrelevant and at worst confusing.

## Invalid Load

When there are rows that do not link to roads or carriageway sections these are listed in a grid and you may fix the errors. The only rows displayed are those that are in error. A filter option is available if you wish to further refine the rows displayed. You can only update or delete rows. On completion the validation is run again either until there are no problems with the data or you press **Cancel**. Two buttons are available to make corrections easier.

- **Correct Carriageways**
- **Correct Roads**

These buttons are designed to handle the majority of the cases, however there a number of more complex changes that can not be handled by routines (for instance Splitting a Road will involve redefining the start and end displacements, not just attaching to a new road and carriageway section). You can either make these changes manually or return the data and a list of changes that have occurred to the roadnames and carriageway table to the data supplier for correction.

The filter button enables you to filter the information. When a filter is currently in use the word *Filtered* appears on the window title bar.

### Correct Carriageway

The **Correct Carriageways** button will appear if there are records located within the wrong carriageway sections. This button will automatically locate these records and place them in the correct carriageway section. If there are two displacement columns in the table (for example *start\_m* and *end\_m*) then you must choose which one is used to determine the correct carriageway section. When a row does not sit within a carriageway section the column *carrway\_start\_m* is left as it is.

### Correct Roads

The **Correct Roads** button will appear if there are records that do not link to the roadnames table. The Road ID of the current row is defaulted into the **Invalid Road ID** column. You can either enter the correct Road ID directly into the **Correct Road ID** column or select the roadnames from the pull down list available on the **Correct Road** column. Clicking the **Correct** button will apply the change.

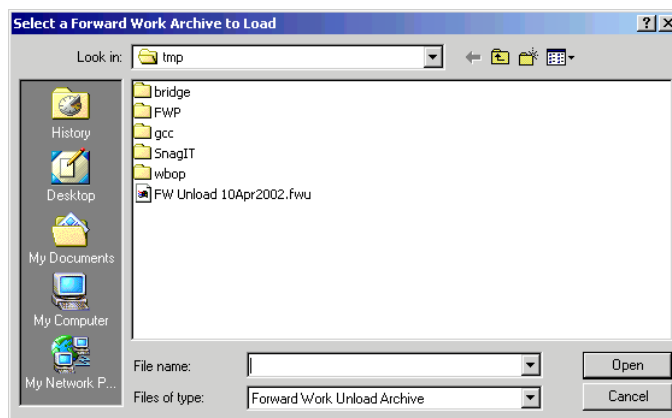
## Programme Load (NZ Transport Agency/Consultant)

After giving RAMM Manager exclusive access to the database, you should choose **Projects > Forward Work > Load**.

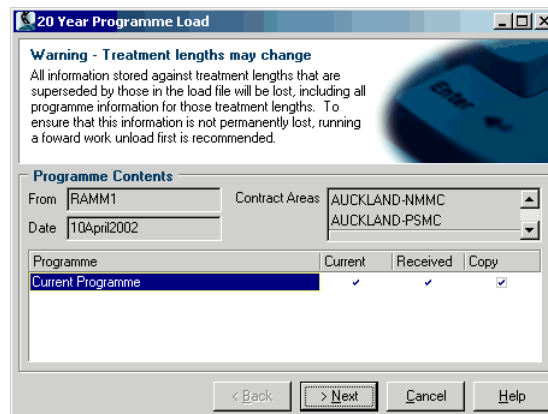
The status of the loaded programme changes to Unlocked and Editable for a Consultant user and Unlocked but Not Editable for a New Zealand Transport Agency (NZTA) user.

There will be a Forward Work Programme that is the **Current Programme**. This may not necessarily be named Current in the database. The programme that is being loaded will overwrite this programme. Therefore, the option to make a copy of the existing **Current Programme** is given to you. By default the name of this copy will be the same as the original but with the text "Copy of" prefixed. It is recommended that this be renamed if it is going to be retained, to reduce confusion later in the year when there may be many programmes with the same name. This can be done in RAMM Manager from the menu **Projects > Forward Work > Programmes**, select the programme and type the new name in the box at the top right.

Select the file to be loaded by browsing.



When you have selected the file to be loaded click on the **Open** button and you will see the following information.



You are warned that by loading this file you may well cause Treatment Lengths to be changed in your database. As part of the preparation of the Forward Work Programme your Consultant may have changed the Treatment Lengths in their Network Management Area. These changes will be implemented in the NZTA copy of the database as the Programme is loaded.

It is recommended, in case there is a problem, that you take a backup either by backing up the entire database or by unloading your own copy of the Forward Work Programme before loading the one from the Consultant. Your unloaded copy will have a record of the Treatment Lengths as they are before the Consultant's Programme changes them and you can use this to restore the database back to where it was before.

The Programme Contents part of this window displays details of the Network Management Area(s) and Programme(s) that are present in the unload file. Use this information to confirm that you have the correct information before continuing with the load.

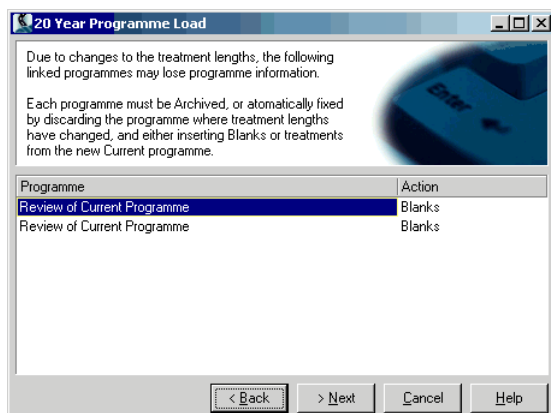
The Programmes listed on this window include all those currently in your database plus an indication of whether you are receiving a new copy of that Programme from your Consultant.

Finally, you can indicate if you wish to make a copy of any one of your existing Programmes before the incoming one replaces it.

Once you have made your choices click on the **Next** button to continue.

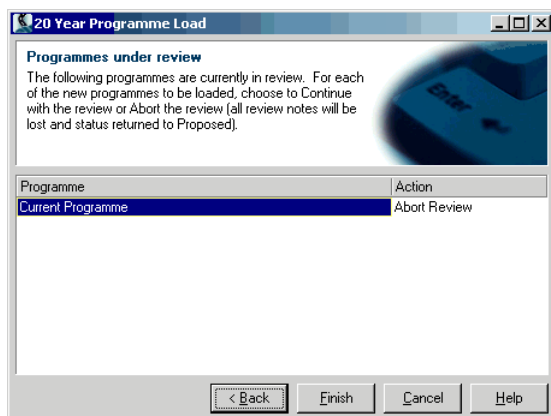
You then need to decide what you want to do to Programmes (other than the Current Programme) when Treatment Lengths have changed.

For the affected Treatment Lengths you can choose an Action to set those Programmes to be **Blank**, **Archived**, or to take the Treatment from the incoming **Current** Programme.



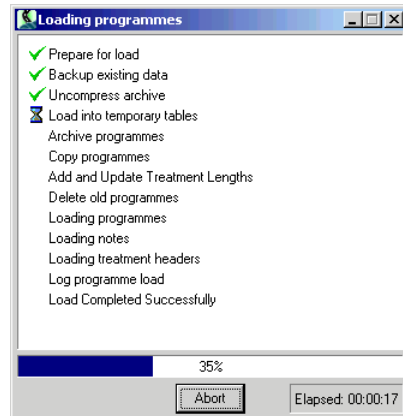
When NZTA loads the programme from the Consultant after the first review has been conducted, they will be asked if they want to carry on the review or abort it (default).

Click on the **Next** button to see details of the Programme that is under review and to decide whether to continue with the review or not.



Once you have made your decisions on whether to **Abort** or **Continue** the Review, click on the **Finish** button to load the information from the Unload file.





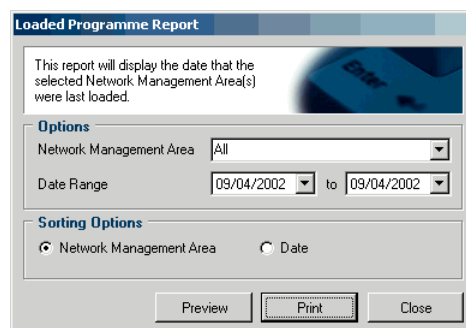
When this process has completed the new Forward Work Programmes will be available to work with.

If RAMM encounters a problem during the load process it will abort the process and restore the original Forward Work Programmes and Treatment Lengths.

## Loaded Programme Report

A record is kept of all the Forward Work Programme loads that have taken place. In addition to recording all the unload and load activity, each time you acquire a copy of the Master Current Programme or transfer the Consultant's Current Programme into the Master, an entry will be made into the log.

If you wish to review that history a report is available in RAMM Manager from the menu **Reports > Forward Work > Loaded Programme Report**.



You can filter the information passed to the report by selecting a specific Network Management Area or by setting the dates that you are interested in.

The finished report will look something like this.

CJN Technologies Limited  
RAMM1

User: nigel Page: 1  
Printed: Tuesday, 9 April 2002 14:34

### **Loaded Forward Work Programme Report**

**NMA: All Dates: 09/07/2001 to 09/04/2002**

**Network Management Area**

**Date Last Loaded**

AUCKLAND

25/09/2001

# National Tasks

This chapter deals with the creation of the Consultant databases and how Consultants import them.

It also addresses the End of Year Rollover and its effects, the tasks to be performed, treatments and intervention strategies.

It also addresses dTIMS CT and Forward Work Programmes.

## In This Chapter

Creating a Database for your Consultant .....	160
End of Year Rollover .....	162
What Else Can I Do with RAMM Forward Work Planning? ..	167

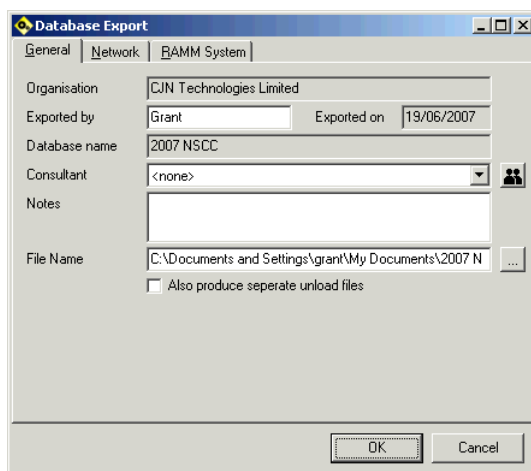
## Creating a Database for your Consultant

As part of the planning cycle, the New Zealand Transport Agency (NZTA) will create extracts of the main database for each of the Network Management Areas. These extracts will be sent to their Consultants.

This section deals with the creation of the Consultant databases and how Consultants import them.

## Database Export

You can export all or part of your Network using the Database Export function that is available in RAMM Manager from the menu **File > Database Export**.

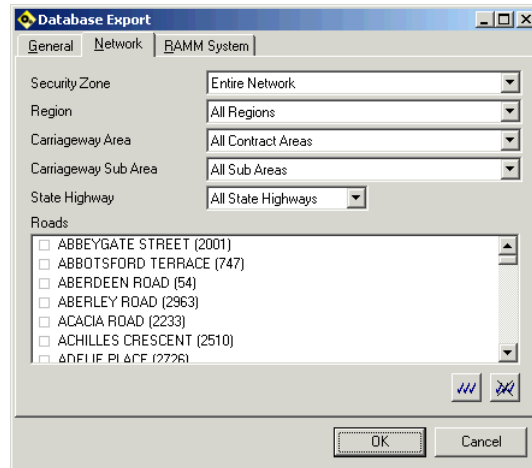


The screenshot shows the 'Database Export' dialog box with three tabs: 'General', 'Network', and 'BAMM System'. The 'General' tab is active. It contains the following fields and options:

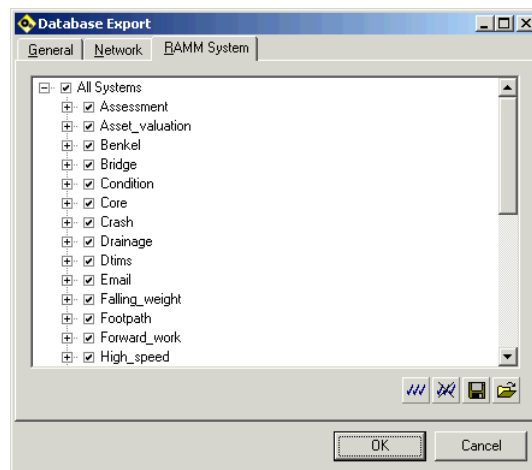
- Organisation: C/JN Technologies Limited
- Exported by: Grant
- Exported on: 19/06/2007
- Database name: 2007 NSCC
- Consultant: <none> (with a dropdown arrow and a user icon)
- Notes: (empty text area)
- File Name: C:\Documents and Settings\grant\My Documents\2007 N (with a browse button)
- ☐ Also produce separate unload files

At the bottom are 'OK' and 'Cancel' buttons.

Go to the Network tab to choose the portion of your Network that you wish to export. The New Zealand Transport Agency (NZTA) returning a Network Management Area (NMA) to the Consultant, should use this tab to select the appropriate NMA by choosing the appropriate Security Zone.



If you wish to exclude a portion of the information in the database you can do so by choosing some of the systems listed on the RAMM System tab.

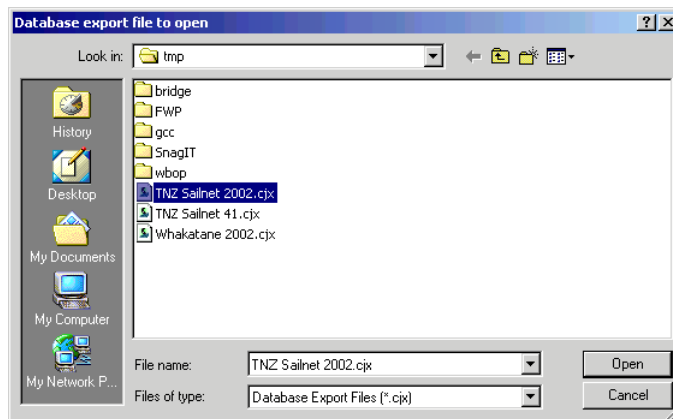


When you have finished making your selections, click on the **OK** button to start the export.

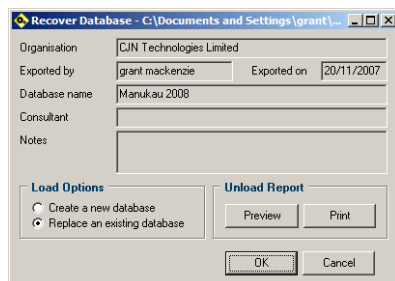
## Database Import

When a Consultant receives a database from the New Zealand Transport Agency (NZTA) it can be used to create a new database using the Database Import. This is available in RAMM Manager from the menu **File > Database Import**.

Use the browse window to locate the database export file.



Select your file and click on **Open** to begin the import.



It is advisable to choose to create a new database from this file rather than replacing any existing copy.

---

## End of Year Rollover

The End of Year Rollover process can only be run by the New Zealand Transport Agency (NZTA) by logging in to the Entire Network Security Zone.

Run this rollover process to set up your database ready for planning treatments for the next season.

## Tasks Performed

The rollover process performs the following tasks:

- **Rollover**  
The year displayed in the first column of the programme is moved forward one year. For example, if 2002/03 used to be the first year, after rollover 2003/04 will show as the first year.
- **History**  
Treatments scheduled for Year 1, prior to the rollover, are recorded in a history table. These can be viewed from the RAMM Treatment Length detail window.
- **Delete Year 1**  
Reasons, reason notes, priority, targets and status for Year 1 are deleted.
- **Maintenance Intervention Strategy Reset**  
If the treatments now placed in Year 1 or Year 2 of the programme have changed, the MIS is reset to null.
- **Force Balancing Window Recalculation**  
When a programme is next displayed in the Balancing window the system will recalculate the programme costs.

## End of Year Rollover Preparation

To prepare for running the rollover check the following:

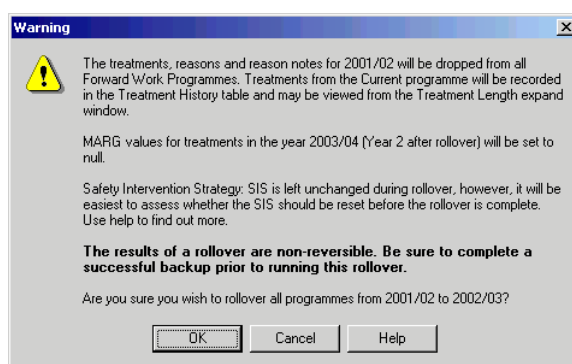
- **Confirm Compatibility will be Maintained**  
When unloading and loading programmes, the first year of the loaded programmes must be the same as the programmes in the target database. If there is any mismatch the load will abort. Be sure that other users from whom you may wish to load programmes, or to whom you may wish to send programmes, are using the same year.
- **Backup**  
End of Year Rollover makes major changes to the database that are not reversible. Create a backup of the database. Use the Database Backup facility in RAMM Manager to make a copy of your database before performing the End of Year Rollover.
- **Check Safety Intervention Strategies (SIS)**  
Some Safety Intervention Strategies may now be able to be cleared. This is not done automatically during the rollover since some Safety Intervention Strategies must remain after treatment work is completed. An example of this is where the SIS may be long term or not corrected by the programmed treatment.

It is easiest to review the SIS prior to rollover, using the Forward Work Programme window in RAMM. This shows the **Treatments** in Year 1 and allows SIS maintenance. The SIS review can be done after the rollover, using the Treatment History tab of the Treatment Length detail window and the Forward Work Programme window.

- **Check Treatments in Year 1**  
Is the correct programme selected as the Current Programme? It is assumed all treatments in Year 1 of the Current Programme have been contracted and completed. Check that Year 1 of the Current Programme accurately reflects the work done, as this will be recorded in the Treatment History.

## Performing the End of Year Rollover

The End of Year Rollover process is only available to the New Zealand Transport Agency (NZTA) when using the NZTA master database. You can access this function from RAMM Manager using the menu **Projects > Forward Work > EOY Rollover**.



The most important thing to note about the End of Year Rollover process is that it is irreversible. Once this process has run there is no going back. The only way to get back to the position you were in before is to restore a database backup.

The End of Year Rollover is used to tell RAMM that we are now in a new financial year. All Treatments currently defined as taking place in Year 1 are now assumed to have taken place. Therefore, this information is moved from Year 1 into the History.

The only information that goes into the History is the Treatment and where on the network it took place - the Road and the Displacement. The formal link between the Treatment and a Treatment Length is broken at this point. This is because Treatment Lengths are dynamic in RAMM and may change considerably over time. However, the Road definition is not so volatile and can be used to record the location of historical Treatments.

Information about the Reason, Primary Motivator, Reason Notes and other data will be lost.

Once Year 1 information has been placed into the history all the other Years move one forward. That is Year 2 becomes Year 1, Year 3 becomes Year 2 and so on. A new, blank year is made available for Year 20.



## Effects of End of Year Rollover

This movement of Treatments has some side effects of which you also need to be aware.

### Maintenance Intervention Strategies

Part of the normal Forward Work Planning process is to delete the Maintenance Intervention Strategy for a Treatment Length whenever a change is made to the Treatments in Years 1 to 3.

End of Year Rollover affects all Years 1 through 3, so if there was a Treatment present in any one of those Years the MIS will be deleted.

It is the responsibility of the Consultant to ensure that any missing Maintenance Intervention Strategies are replaced. Using the Forward Work Programme Planning Grid you should be able to find all the Treatment Lengths that are affected.

### MARG Priorities

MARG values are calculated for Year 2 of the Forward Work Programme. Therefore, since Year 2 has become Year 1 after the Rollover, the values we have previously calculated no longer apply. To avoid confusion the MARG values are completely cleared for the database.

### Safety Intervention Strategies

The End of Year Rollover does not alter Safety Intervention Strategies. However, it would be sensible to review them when the Consultant has downloaded a new copy of the database.

### Allowed Treatments

Treatments are defined by the New Zealand Transport Agency (NZTA) as being applicable only for certain Years in the Forward Work Plan.

End of Year Rollover can cause some Treatments to move from a Year where they are valid into a Year where they are not.

Finding these Treatments by visually scanning through the Programme is not an easy task. Therefore, RAMM provides you with a report to assist.

The Out-of-Date FWP Treatments report can be accessed from RAMM Manager using the menu **Reports > Forward Work > Programme Integrity > (select Out-of-date Treatments)**.

It is the responsibility of Consultants to update the Forward Work Plan to replace any out-of-date Treatments with more appropriate alternatives. Therefore, it is recommended that you run this report as soon as you download a new copy of the Consultant database following End of Year Rollover.

### Primary Motivators

All Reason codes for whom Primary Motivators have been defined must be associated with a Primary Motivator when used in Years 1 to 5. This means that any such Reason used in Year 6, to which a Primary Motivator has not been assigned, is now in error as it moves into Year 5.

Like, Treatments this is a difficult thing to scan for visually and so RAMM provides you with a Missing Primary Motivators report. You can access this report in RAMM Manager from the menu **Reports > Forward Work > Programme Integrity > (select Missing Primary Motivators)**.

It is the responsibility of Consultants ensure that all Reasons that require a Primary Motivator have an appropriate one assigned. Therefore, it is recommended that you run this report as soon as you download a new copy of the Consultant database following End of Year Rollover.

### Inactive Treatments

Inactive Treatments have no connection with End of Year Rollover and therefore should not be a cause for concern. However after performing an End of Year Rollover it would be advisable to check for Inactive Treatments still in the Programme.

From time to time the New Zealand Transport Agency (NZTA) decides that a given Treatment is no longer applicable. Since historical references to the Treatment must be kept, the Inactive Treatment can not be removed from the system.

However, the process of flagging a Treatment as Inactive does not force any changes to the Plan.

Once you receive a new copy of the Consultant database following the End of Year Rollover it is recommended that you look for and replace any Treatments that are now inactive. RAMM provides a report to help you locate any of these cases. You can get to the report in RAMM Manager from the menu **Reports > Forward Work > Programme Integrity > (select Inactive Treatments)**.

---

## What Else Can I Do with RAMM Forward Work Planning?

There are a number of other tasks that can be performed within the RAMM Forward Work Programme. They will not be things that you would do every day. These tasks are:

- Combine All Programmes.
- Unload RAMM Data for dTIMS CT.
- Load dTIMS CT Analyses.
- National Table Export.
- National Table Import.

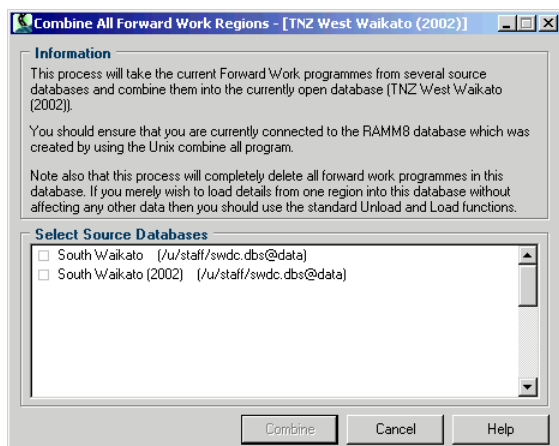
### Combine All Programmes

Combine All Programmes is the process by which the Forward Work Programmes, from two or more databases, can be combined into the current database. One combined Current Programme is created from those in the source databases.

Connect to the database that is to be the destination for the combined Forward Work Programmes and choose the databases that will be used to provide the source data.

Note that this process will remove all Programmes in the destination database before generating the new combined Programme.

This option is available only to the New Zealand Transport Agency (NZTA), using the RCA master databases and by logging in to the Entire Network Security Zone. You access this in RAMM Manager using the **Projects > Forward Work > Combine All** menu.



Remember that the database that you are currently connected to, whose name appears in the window title, is going to be used as the destination for all the source databases. This means that anything that is currently recorded in this database will be deleted and replaced with the incoming information.

Select your source databases from the list available on this window. The databases that you choose will only have information read from them and will not be altered or affected in any way.

The Combine All Programmes process is intended to be run when connected to the RAMM8 database, which is a blank database specifically created for this purpose.

## dTIMS Analyses and Forward Work Planning

dTIMS is a tool used to analyse Pavement data and make recommendations for the Forward Work Programme (FWP). **RAMM** provides a method of extracting Treatment Length and other data from your Network in a format that can be imported into dTIMS.



Once you have completed your dTIMS Analyses you can extract the results of one or more of them to be returned to **RAMM** as an Alternate Scenario.

These dTIMS recommendations are available in **RAMM** for reference and can be compared against the Current or other Programmes. Please note that dTIMS Treatment definitions are not the same as those used by **RAMM**.

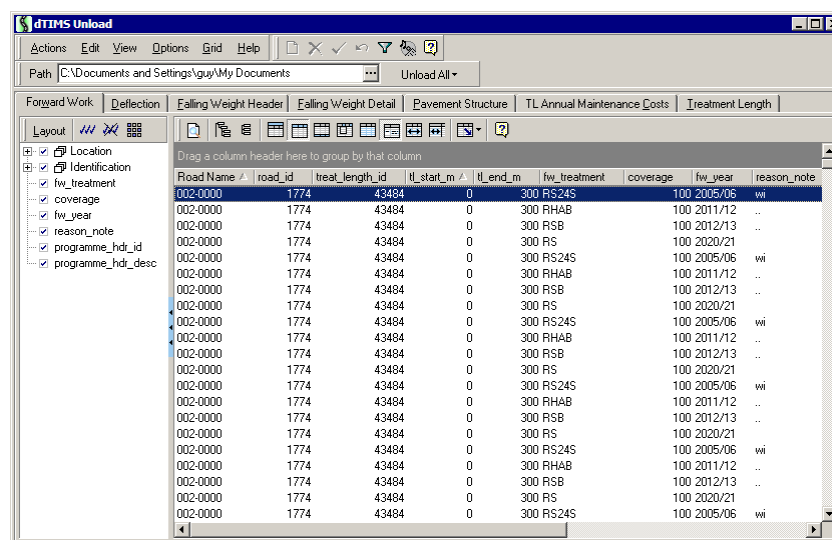



dTIMS and **RAMM** have no formal links. They do not share the same database, so please be aware that if you make changes in one system they are not directly reflected in the other.

### dTIMS/dTIMS CT/dTIMS CT Express Unload

In the RAMM main window, select the type of unload you wish to perform. All three unload selections are available from the **dTIMS** menu.

The selected dTIMS unload will launch the relevant process and unload the required data.



The **Path** window shows the location of the unload file. You can change this location if necessary by typing it in or clicking the **Browse** button  to choose another location.

Click the **Unload All** button next to the Path window and select the file type for your unload files. RAMM will create the unload files at the selected location.

### dTIMS CT Load

Information from the dTIMS CT Analysis can be loaded into RAMM by following the menu path **Projects > Forward Work > dTIMS CT Load** menu in RAMM Manager.

The information that RAMM will accept using this import option must have been extracted from the dTIMS CT database using the extract utility available from CJN Technologies Ltd.

## National Tables Export

Data which is recorded in tables that are nationally maintained, by the New Zealand Transport Agency (NZTA) can be unloaded from the master database in RAMM Manager using the **Projects > Forward Work > National Tables > Export** menu.



Much of the national data differs for each of the Security Zones in your database. Therefore, you need to select the Security Zone for which you wish to extract national data and save that to its own file. Create and send to your Consultants, one file for each Security Zone.

The nationally controlled data that will be extracted is as follows:

- Maintenance Intervention Strategies.
- Safety Intervention Strategies.
- Treatments.
- Treatment Groups.
- Funding Groups.
- Reasons.
- Primary Motivators.
- Reason/Primary Motivator Relationships.
- MARG Factors.
- MARG Weightings.
- MARG Default Activities.
- Note Types.

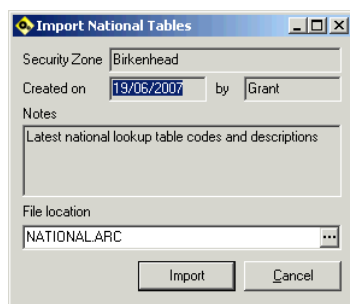
Running the process will display a list as follows:



This is a list of all the nationally controlled tables that have had data extracted and stored in the file that you nominated. You can now send this file to your Consultant to be loaded into their database.

## National Tables Import

You load the latest version of the nationally controlled data in RAMM Manager from the **Projects > Forward Work > National Tables > Import** menu.





You can import the data for only one Security Zone at a time. If you have two or more Security Zones in your database then you should have received one file for each of them. Clicking on the Import button displays the following:



Once this is complete, your National tables will be up to date.



# Project Ranking

Maintenance treatments drawn from Year 2 of the Forward Work Programme into the Annual Plan may require further detailed consideration before commitment.

*Chapter 1 – Section 10* of the *SHAMM* discusses Project Ranking in terms of Pre-commitment Verification, Project Ranking Methodologies, and Specific Methodologies.

Ranking methodologies are currently available for Area Wide Pavement Treatment and Resurfacing.

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## Maintenance Allocation Review Group Calculations

The methodologies used in the Maintenance Allocation Review Group (MARG) calculations are the *Pavement Area Treatment Index (PATI)* and the *Resealing Index (RI)*.

Detailed discussions of these methodologies can be found in the *SHAMM* manual. See *Chapter 1 – Appendix G* for a discussion of PATI calculations and *Chapter 1 – Appendix H* for the RI calculations.

---

## When Do You Need To Calculate MARG?

In the Forward Work Programme process, MARG Weighting is only used after the following activities are completed:

- Treatment Lengths altered, validated and problems corrected
- Exceptions run to highlight problem areas
- Treatment selection run to recommend treatments and report missing data
- Forward Work Programme decided for each Treatment Length
- optionally, the programme unloaded by consultants, loaded by the New Zealand Transport Agency (NZTA) Head Office and collated into a larger Network view.

It is assumed at this point in the process, that any data problems underlying the Forward Work Programme or Treatment Lengths will have been reported in previous activities and have been rectified as far as possible. There is no requirement to report problems such as data being unavailable, or business rules compromised when calculating the MARG Weighting for a treatment. If problems are encountered that prevent the MARG Weighting being calculated, it is set to zero and you are warned of the Treatment Length and treatment that failed.

The process to recalculate MARG Priorities is run by you whenever required. MARG priorities are not recalculated as part of the **Treatment Length Summarise** process.

The calculation is always performed on current available data.

## Overriding the Calculated MARG Values

The New Zealand Transport Agency (NZTA) has the ability to override the calculated MARG values. Both the calculated and override figures are kept in the system. When rerunning the MARG calculation at NZTA you can choose to clear the override values if you wish. Consultants do not have the ability to either enter override values or clear any that may be present in the database.

An additional priority indicator is available that is independent of the calculated or override MARG values. This priority, which is of the form of a High/Medium/Low flag can be set against a Treatment Length at any time.

---

## Who can use MARG?

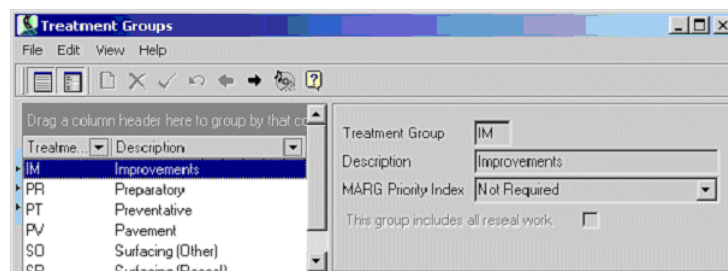
You can have three levels of access to the MARG facilities:

- **View** - You can view MARG Weighting calculated for a treatment.
- **Run** - You can clear MARG priorities and rerun the calculations.
- **Override** - You can override the system-calculated MARG Weighting (NZTA only).

---

## Assigning MARG Indices to Treatments

The definition of which Treatments are associated with the Reseal Pavement Area Treatment Index is achieved through the Treatment Group Definition.



Each Treatment Group can be assigned to either the Reseal Index or PATI. Therefore, all Treatments that are members of that Group are then included in the calculation. Other **Treatments** that currently do not have a MARG score calculated for them can be added to the appropriate Treatment Group such as Pavement or Surfacing (Reseal). You do this at the Treatment Group drop-down list on the Treatments window.

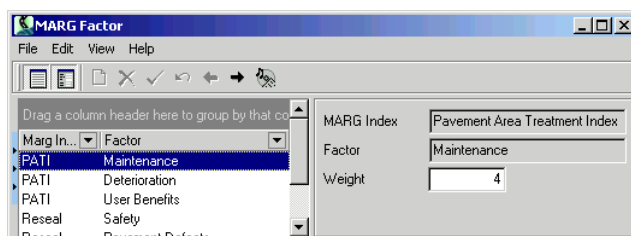
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## MARG Factors and Weightings

All the weightings, the parameters for the weightings and the adjustment factors are maintainable by you. However, the database administrator should be the only person to change these weightings. This is to ensure national uniformity when it comes to ranking projects for funding allocation.

## Maintaining MARG Factors

Access to the MARG Factors maintenance window is through RAMM Manager using the menu **Projects > Forward Work > MARG > Factor**.



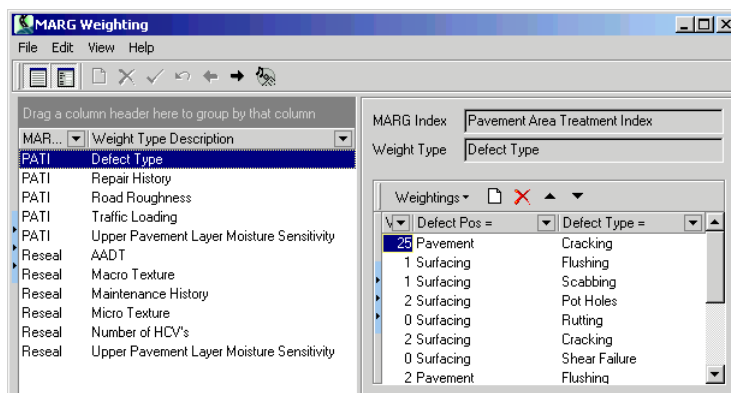
The MARG Index Factors have been defined by the New Zealand Transport Agency (NZTA) and preloaded into the database. It is not possible for either the NZTA or Consultants to add or remove these Factors.

However, the value of the Weight, given to the Factor, can be modified at any time by either NZTA or Consultants from the Entire Network Security Zone.

Consultants should note, however, that this information is not recorded by Security Zone and is not returned to NZTA.

## Maintaining MARG Weightings

Access to the MARG Factors maintenance window is through RAMM Manager using the menu **Projects > Forward Work > MARG > Weighting**.



Once again the MARG Weighting Types have been defined by the New Zealand Transport Agency (NZTA) and loaded into the database. It is not possible for either NZTA or Consultants to add or remove Weighting Types. However, the Weightings that go to make up the Types can be added to, deleted, or modified. This is available to either NZTA or Consultants.

Consultants should note, however, that this information is not recorded by Security Zone and is not returned to NZTA.

---

## Calculating A MARG Score

Check that there is a value in the Upper Pavement Layer Moisture Sensitivity box on the Pavement tab in the Treatment Length detail view. A MARG value can not be calculated without this.

The default value is Not A Problem. The Consultant should select their own value for this field. To add or change a value, click the **Maintain** button on the Treatment Length table in RAMM. All other fields should be populated because most of the data is taken from the Treatment Length summary table, which is updated when Treatment Length Resummarise is run.

Click **Calculate** on the Year 2 MARG Weightings tab of the Treatment Length detail view or of the Forward Work Programme window in RAMM, or in RAMM Manager from the menu **Processes > Treatment Lengths > MARG Calculation**.

Select either the current Treatment Length or all Treatment Lengths. This may take some time for a network. Decide whether you want to erase user-entered (override) values and priorities. These options are available only to the New Zealand Transport Agency (NZTA) users.

Click **Calculate**. After calculation has finished, press F5 to refresh the window and view the calculated MARG values.

It is also possible to calculate the MARG score for all or an individual Treatment Length by accessing the Year 2 MARG Weightings tab on either the Treatment Length Detail window or the Forward Work Planning window.

---

## User Override and Priorities

If the New Zealand Transport Agency (NZTA) thinks that the calculated score is not right, then a score that is more representative of the Treatment Length can be entered. A priority can also be attached if this is appropriate.

These user-entered values can only be entered and changed by NZTA and can not be erased by the Consultant. They are not erased when MARG is recalculated unless specified and in the reporting the override value is used for ranking, not the calculated value.

To enter values, simply click on the box next to the calculated MARG score and type the number or select from the drop-down list for the priority.

You can access the MARG data for a Treatment Length from the Year 2 MARG Weightings tab on the Treatment Length Detail window.

The screenshot shows the 'Treatment Length Detail' window with the 'Year 2 MARG Weightings' tab selected. The window has a menu bar with options: SCIM History, Costs, SWC/Shoulder, Accidents, Misc, Grouping, Valuation, General, Surface, Pavement Layer, Condition Latest, Condition By Year, Rating, SCIM Latest, Identified Defects, Year 2 MARG Weightings, Treatment History, Exceptions, and gTIMS. Below the menu bar is a 'Current Programme' dropdown. The main area contains a table with the following columns: Treatment, Index, Override, and Percieved. The first row is 'Drainage Improvements'. The 'Index' column is empty, 'Override' is empty, and 'Percieved' is empty. There are scroll bars on the right and bottom of the table area.

Treatment	Index	Override	Percieved
Drainage Improvements			

Alternatively, you can also get at the same information from the Year 2 MARG Weightings tab on the Forward Work Planning window.

The screenshot shows the 'Forward Work Planning' window with the 'Year 2 MARG Weightings' tab selected. The window has a menu bar with options: General, Intervention Strategies, and Year 2 MARG Weightings. Below the menu bar is a table with the following columns: Treatment, Index, Calculated, Override, and Percieved. The first row is 'Drainage Improvements'. The 'Index' column is empty, 'Calculated' is 'None', 'Override' is empty, and 'Percieved' is empty. There are scroll bars on the right and bottom of the table area. A 'Calculate' button is located at the bottom right of the window.

Treatment	Index	Calculated	Override	Percieved
Drainage Improvements		None		

## Reporting MARG Scores

There are two MARG Score reports available in RAMM Manager:



**1 MARG Calculation Error**

This details calculation errors in the MARG process. This is when the word Failed appears in the MARG value field, or the value in the field is zero.

**2 MARG Treatment Detail**

This lists those Treatment Lengths with a MARG value, from highest score (highest priority) to lowest score (lowest priority) by Programme, Region, Network Management Area and Treatment Group.

These are accessed from **Reports > Forward Work > MARG Calculation Error** and **Reports > Forward Work > MARG Treatment Detail**.



# Database Housekeeping

The following is a checklist of database housekeeping functions to be carried out periodically. It must not be regarded as complete. Consider it a dynamic list that will be added to based on operational experience, user feedback and requests for assistance.

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## Tables

**Cost Sets** - the treatment Cost Sets should be reviewed at least annually checking:

- the appropriateness of the split of Cost Sets. Do they still fairly represent the areas where costs change?
- the costs allocated to each treatment within the Cost Set.

---

## Functions

**Summarise** - This process is described within the software documentation. It summarises the data held against Treatment Lengths. It checks the integrity of the consistency of the Treatment Lengths. For instance, it checks whether they are contiguous and whether they cover the full length of road names.

# RAMM Security

The information in your **RAMM** Database is valuable.

You will want to control who may access your database information and exactly what they are permitted to do with it.

**RAMM** enables you manage user access and permissions by a combination of global security parameters, individual Security Profiles, Security Roles and Security Zones.

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## Understanding RAMM Security

You will find it easier to work with **RAMM** Security if you first understand its underlying concepts and assumptions. You should read this section before starting to work with **RAMM** Security.

### History of Security in RAMM

**RAMM** has always offered user Security. At a basic level, Security has been implemented on a per user basis using a range of switches covering different aspects of the data and **RAMM** functions. Each of these switches, such as the one used to control access to the Drainage Inventory, has a hierarchical series of preset levels defined. For instance, this allows you to give a user view-only access so they can see but not touch, or to give them view and update access. The latter case would allow a user to make changes to the Drainage Inventory.

In fact, **RAMM** is much more sophisticated than this example suggests. There are also controls in place for managing Lookups associated with the Asset, for example Drainage Type. In addition, you can prevent someone from importing data using File > Import or control what they can do using **RAMM SQL**.

---

## Global Security Switch

The Global Security switch is an efficient method of granting preset levels of database access.

**RAMM** Security uses a Global Switch. This sits on top of the individual switches and allows you to set a specific range of values across all the individual switches in one go. This switch has five settings:

- No Access
- View Only
- Contractor
- Full Control
- Custom Settings.



If you use this Global Setting to set a user to **View Only** it means that all the individual permission switches for that user are set to **View Only**. Setting **No Access** has the effect of denying a user any access at all to the **RAMM** Database. Contractor enables the use of preset **RAMM Contractor** Roles. Full Control gives the user just that - permission to access anything and to run any process. Using Custom Settings gives you access to the individual permission switches so you can personally tailor the Permissions for a user.

---

## Default User Security Profile

Default Permissions make it simple for you to deal quickly with most users. You can create a default set of Permissions, usually for **View Only**, which will be used by anyone connecting to your **RAMM** Database if their Permissions are not explicitly defined.

---

## Security Roles

Although having a Default Permissions set can make it easy to deal with a large group of casual users, it does not give you a way of handling the situation when you have a large number of users but they are divided into a relatively small number of Roles within the **RAMM** Database. In this case it would be useful to be able to set up a limited number of Permissions and assign users to one or other as appropriate.

Therefore, the concept of Security Roles was introduced. You can treat a Security Role as if it were a user and set permissions, either Global or Custom, as you would for a person. When you add a user to the database you can choose a Security Role for that person to use rather than set up individual Permissions.

There are two advantages to doing this. Firstly, it is quicker to add a person to the database and to give them the appropriate Permissions. Secondly, you can change the Permissions for a whole group of people in one go by changing the Permissions associated with the Role.

---

## Security Zones

Security Zones are used to manage access to parts of the Road Network in the **RAMM** Database.

When the NOMAD Forward Work Programme was designed and implemented in **RAMM** it was necessary to find a way to divide the Road Network into Network Management Areas. The method chosen to do this was to use the Carriageway Area. In a State Highway Database, this works well as there can be few Carriageway Areas defined covering relatively large geographical areas. However, in Local Authority Databases, the Carriageway Area was most often used to define Wards. Whilst the State Highway could easily be managed by breaking it down this way, the Local Authority would not typically want to divide the Network up this way for Maintenance Management.

However, within **RAMM Contractor**, it would be possible to have two Maintenance Contractors working within a Local Authority Network each with responsibility for part of the Network. Once again these Network portions are unlikely to match the Ward boundaries.

Therefore, something more flexible was required that allowed a Network to be divided into portions by any criteria you require.

This tool is the Security Zone.

### A Collection of Roads

At its basic level, a Security Zone is a portion of the Network defined as a collection of Roads. You can choose to select all the Roads in a geographical area and call them a Security Zone. Alternatively, you could pick a group of Roads with a common characteristic such as **Unsealed**, wherever they may occur within the Network and call it another Security Zone.

When Security Zones were introduced, some standard definitions were automatically put in to the **RAMM** Database. In the case of a Local Authority Database, one Security Zone called Entire Network, was automatically placed into the database. In the case of a State Highway Database, in addition to the Entire Network, Security Zones were created for each **RAMM** Region, Network Management Area and for each Contract Area within the NMA.

## Grant and Revoke Permissions

When you make changes to user Permissions, **RAMM** tells the Informix database to align its internal permissions (Connect, Resource, DBA) accordingly. This happens automatically when you close the **Staff Permissions** screen after making changes. If you want to manually grant or revoke permissions, you go to the menu at the top of the **Staff Permissions** screen and choose File > Grant/Revoke.

This special control commits the changes you make to a Permissions record to a database, allowing you to continue working with the **Staff Permissions** screen.



## Managing RAMM Security

Managing **RAMM** user security involves adding and changing Security Zones followed by adding or modifying Security Roles and user permissions to reflect the changing needs of the people who use your **RAMM** Database.

Managing **RAMM** security involves:

- adding and configuring Security Zones
- adding and configuring Security Roles
- adding users to the system.
- setting up Security Permissions for those users by selecting a Role for them, or manually configuring user tasks.

You can view your own Security Permissions. However, you must have specific permissions to be able to:

- view the security details of other users
- modify the security details of yourself and other users
- create new users
- view, modify or create Security Zones
- view, modify or create Security Roles.

## Viewing Security Zone Details

All your users will need to be associated with one or more Security Zones. You will need to spend some time setting this up initially.

All **RAMM** Databases will have at least one Security Zone called the Entire Network. This Security Zone has some special characteristics within **RAMM**. Firstly, it will always contain every Road within the Database. This occurs automatically. So you do not have to worry about losing access to new Roads. There are also some actions which are available to you only if you are logged in to the Entire Network.

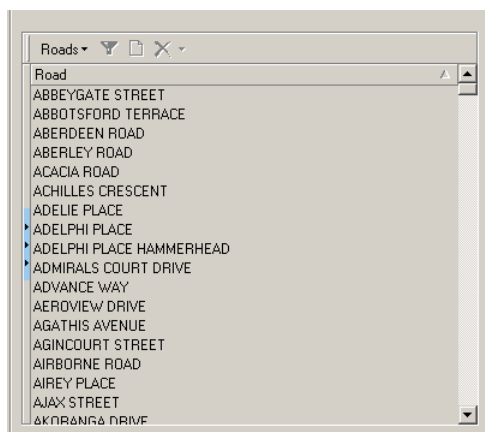


You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To View Security Zone Details

- 1 Launch **RAMM Manager**.
- 2 Follow the menu path Maintenance > Security Zones to open the **Security Zones** screen.

- 3 Go to the list of Security Zones on the left hand side of the screen and select the one whose details you want to view.
- 4 You will see the details of the selected Security Zone on the right hand side of the screen. This includes a listing of all the Roads which have been selected.




## Adding a Security Zone

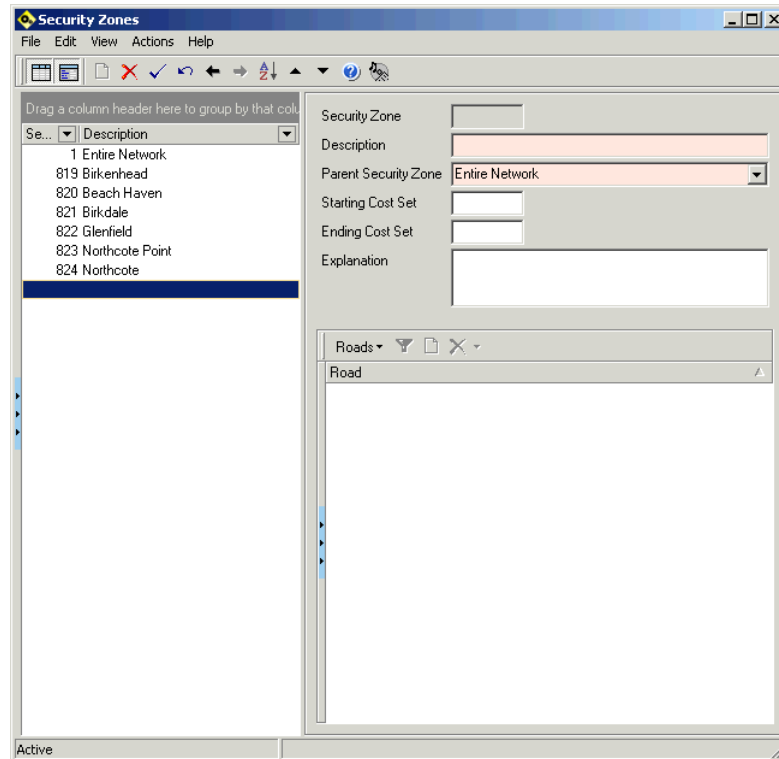
When you need to restrict the access of one or more users to a portion of your Network, you will need to create a Security Zone for them to use.



You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Add a Security Zone

- 1 Launch **RAMM Manager**.
- 2 Follow the menu path Maintenance > Security Zones to open the **Security Zones** screen.
- 3 Press Add Security Zone  or CTRL+N.




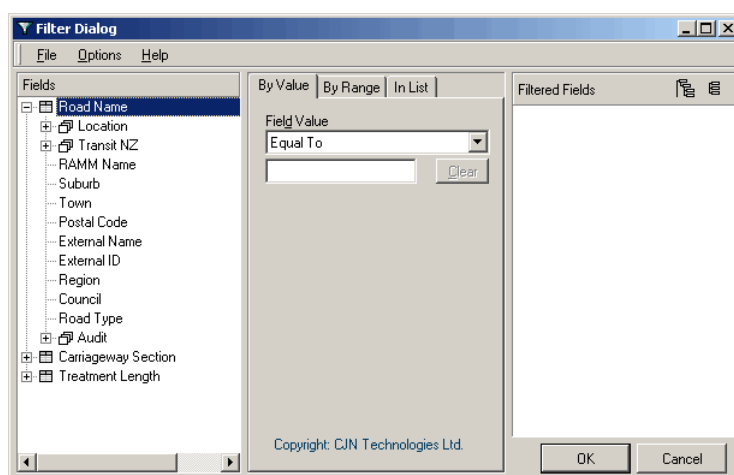
#### 4 Add the details for the Security Zone:

- **Description**  
The name of the Security Zone
- **Parent Security Zone**  
This is the name of the Security Zone which will contain the new one. Each Security Zone, except for the Entire Network, requires a parent. You will be restricted to choosing Roads from the Parent for your Security Zone. The default Parent Security Zone will be the one into which you are logged in.
- **Starting Cost Set**  
You have the option to restrict the Cost Sets associated with your Security Zone to a defined range of numbers. The **Starting Cost Set** is the lowest number your Cost Sets will be able to take. This number must fall within the range available to the Parent Security Zone.
- **Ending Cost Set**  
You have the option to restrict the Cost Sets associated with your Security Zone to a defined range of numbers. The **Ending Cost Set** is the highest number your Cost Sets will be able to take. This number must fall within the range available to the Parent Security Zone.

- **Explanation**

You have the option of associating free-format notes with this Security Zone. Notes which are added at the time of creation or editing can be very useful at a later date. Notes can help if you have forgotten why you did something or if another user needs to understand your reasoning and purpose.

- 5 Choose the Roads which are to be associated with the Security Zone. You can add and remove individual Roads from the list by using the Insert and Delete buttons. When you press the Insert button a new record will be added to the list of Roads. You select the Road you want to add from the drop-down list.
- 6 Although you may want to add Roads individually, it is very likely that you will want to select multiple Roads based on one or more selected characteristics. You can do this by pressing on the Filter button . A standard **Filter Dialog** will open and you can choose to filter by anything from the Road Names, Carriageway Sections or Treatment Lengths.



The Roads selected by the Filter will be added to the list of Roads for the Security Zone.



You should consider the Filter characteristics which you select very carefully before you apply them. You may not achieve the results which you expect. The Security Zone is a collection of Roads. So if, for example, you set up a Filter for Urban Carriageway Sections and accept all the Roads returned, you may see Rural Carriageway Sections when you log in to **RAMM**. This occurs when you have both Urban and Rural Carriageway Sections on the same Road.


## Deleting a Security Zone

You can delete a Security Zone only if it has not been used in the Permissions of any user.



You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Delete a Security Zone

- 1 Launch **RAMM Manager**.
- 2 Follow the menu path **Maintenance > Security Zones** to open the **Security Zones** screen.
- 3 Select the Security Zone which you want to delete.
- 4 Press **Delete Record** .  
The Security Zone is deleted.

---


## Adding a Security Role

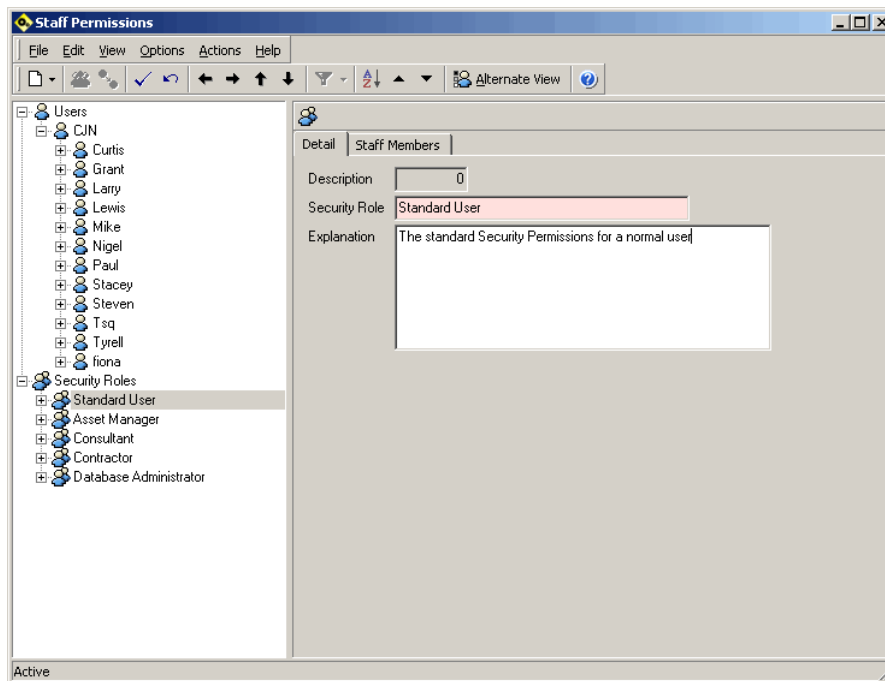
Adding a Security Role is similar to adding a new user. You name the Security Role and define a Permissions Profile to go with it. The only difference is that the Security Role itself is independent of Security Zones.





You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Add a Security Role

- 1 Launch **RAMM Manager** and follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 2 Press **Add New Record**  and select **Add New Security Role** from the drop-down list which appears.
- 3 Type the name for the Security Role in the **Security Role** field and any notes in the **Explanation** field, if necessary.



- 4 Beneath the new Security Role you will see the RAMM Permissions Profile. If you can not see them then press the adjacent Plus button  and the tree will open revealing the dated Profile Records. The default Profile is the Global View Only.
- 5 Define the Permissions Profile for the Security Role by selecting a Global setting:
  - No Access
  - View Only
  - Contractor
  - Full Control
  - Custom. See Setting Custom Security Permissions (on page 206).
- 6 Save your changes by pressing Save Record  or CTRL+S. A new Profile record with the data entry date is created beneath the name of the Security Role.



Your changes are effective immediately in **RAMM** but corresponding Informix Permissions are automatically granted or revoked when you close the **Staff Permissions** screen. See Grant and Revoke Permissions (on page 188).

## Changing Security Role Settings

When there is a change in the way that users of a Security Role access **RAMM**, you need to update the Security Role Profile.

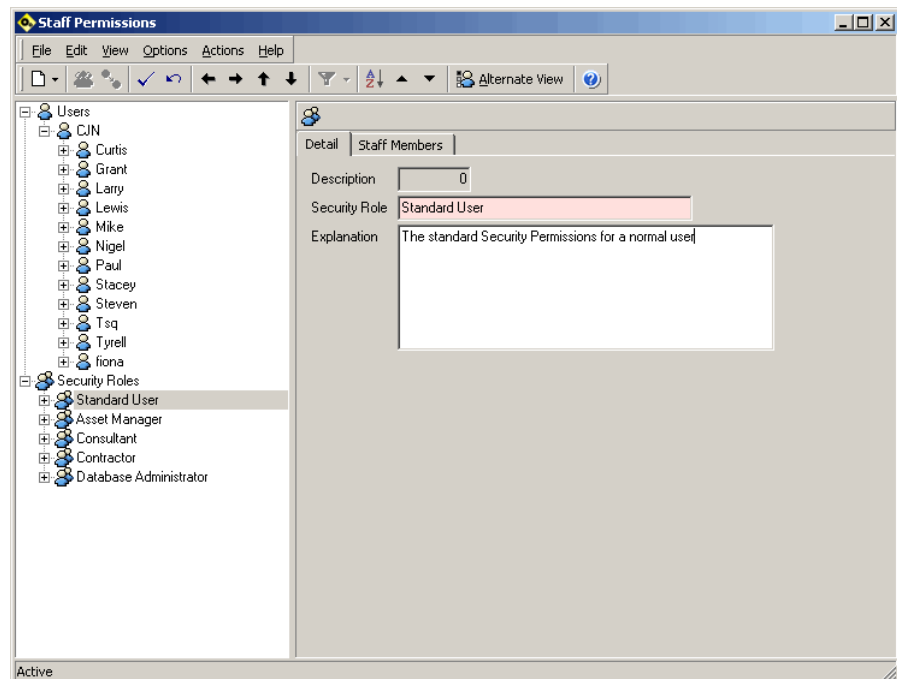



**NOTE**

You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Change Security Role Settings

- 1 Launch **RAMM Manager**.
- 2 Follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 3 Select the **Security Role** which you want to change from the list on the left hand side of the screen.




- 4 Beneath the Security Role you will see the RAMM Permissions Profile. If you can not see them then press the adjacent Plus button  and the tree will open revealing the dated Profile Records.



NOTE

You can not change historical Profile records. The Security Role Details are on the right hand side of the screen.

- 5 Change the name or explanation for the **Security Role**.
- 6 The current standard **Security Profile** will be highlighted in blue. Choose another of the standard **Security Profiles** from those on the right hand side of the screen or set Custom Permissions. See Setting Custom Security Permissions (on page 206).
- 7 Save your changes by pressing **Save Record**  or CTRL+S. A new **Profile** record with the data entry date is created beneath the name of the **Security Role**.



NOTE

Your changes are effective immediately in **RAMM** but corresponding Informix Permissions are automatically granted or revoked when you close the **Staff Permissions** screen. See Grant and Revoke Permissions (on page 188).

## Viewing User Security Settings

Once you have set up Security Zones it is possible to assign and view Permissions for a user. All users can view their own Security settings but you will need the correct Permissions to view the Permissions of another user.




NOTE

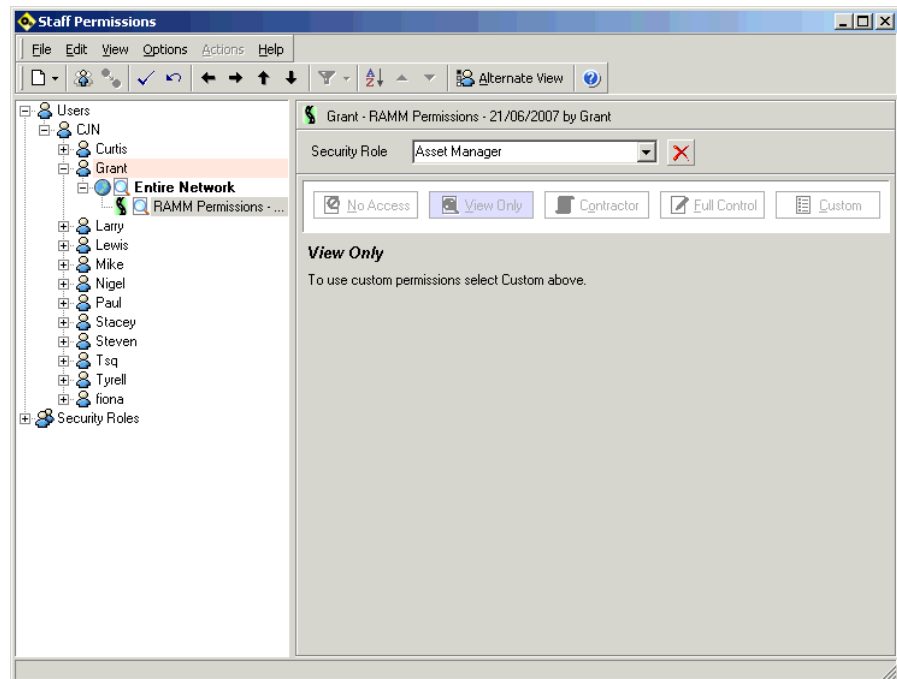
You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.


### ► To View User Security Settings

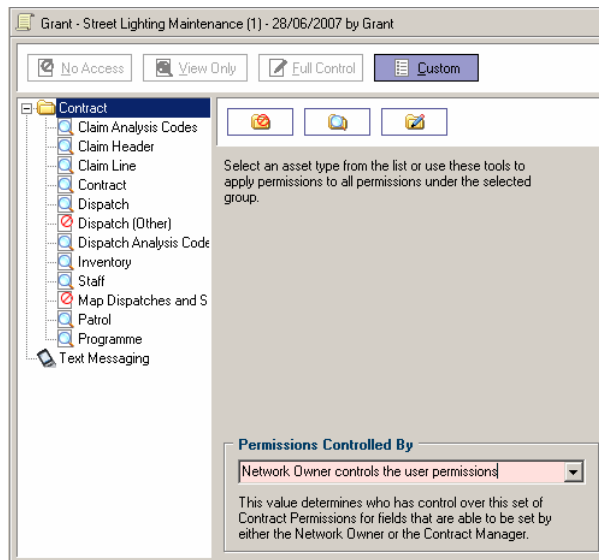
- 1 Launch **RAMM Manager**.
- 2 Follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 3 Select, from the list of users on the left hand side of the screen, the user whose Permission details you wish to view.



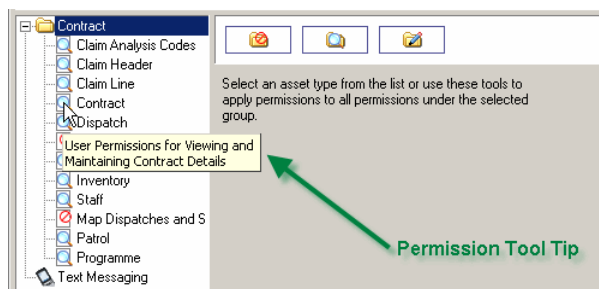
- 4 You will notice one or more Security Zones beneath the name of the user. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing the Security Zones.



- 5 Within each Security Zone you will see one or more dated Profile Records. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing the dated Profile Records. The top record contains the current settings for the user. Select the name of the person whose details you wish to see on the right hand side of the screen.
- 6 If the person has been assigned a Security Role, this will be displayed in the **Security Role** field at the top of the screen. If this person has customised Permissions, they are displayed in the lower section of the screen. Select them to view the Permission details.



- 7 To find out more about a Permission, hover the mouse pointer over it and a tool tip will appear with further information.




## Adding a User

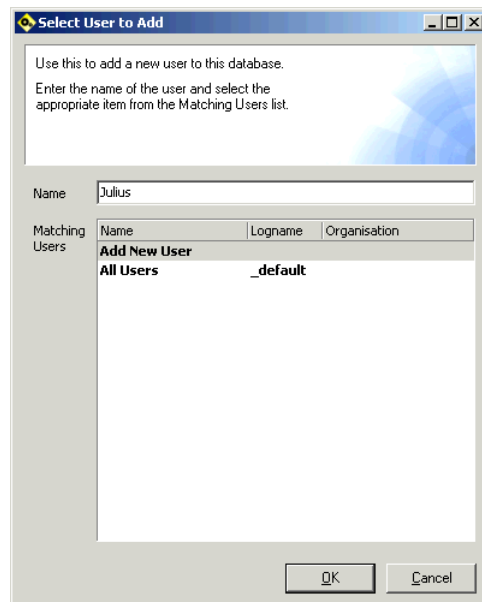
When someone needs access to your **RAMM** Database, you will need to create a Security record for them.



You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Add a User

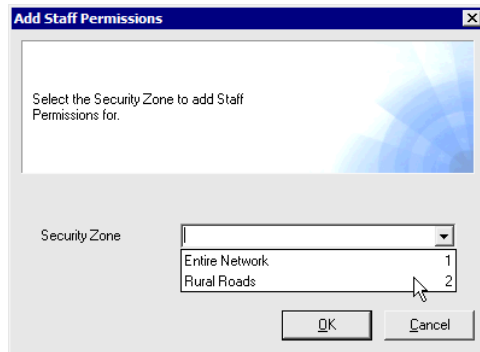
- 1 Launch **RAMM Manager**.
- 2 Follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 3 Press **Add New Record**  and select **Add New User** from the drop-down list which appears. The **Select User to Add** screen opens.
- 4 Type the name for the user in the **Name** field.



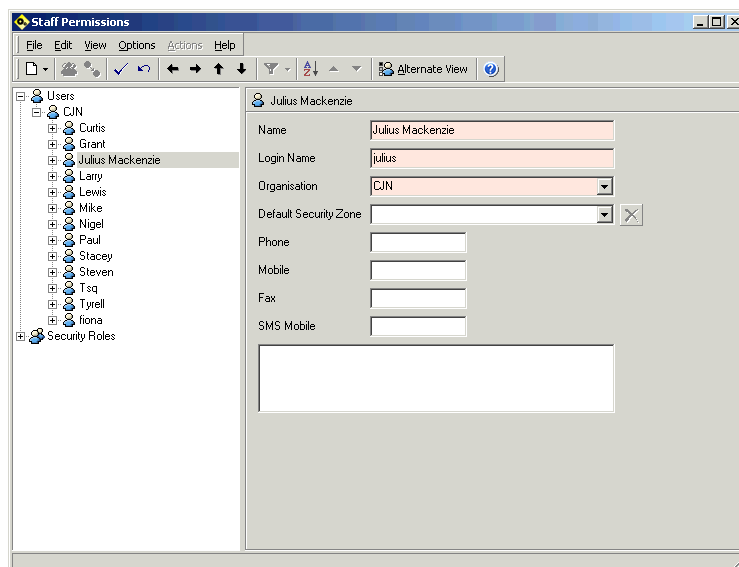
By default you are expected to add a named person at this dialog, so **Add New User** is highlighted. You can choose to add a default Permission for all users in which case you select **All Users**.

If you are on the **RAMM Hosting Service**, then, when you start typing, you will see a list of all the people who are users of the Hosting service whose names match the initial letters you have typed. As you type more of the name of the person to whom you want to give access, the list will progressively grow smaller as **RAMM** performs a match against the name you type. When you see the name you want, select it. If you have **RAMM** installed locally, you will need to type the name of the person in full.

- 5 Press **OK** to open the **Add Staff Permissions** dialog.



- 6 Select the Security Zone for the person to access from the **Security Zone** drop-down list and press OK.
- 7 The new user record initially appears below the list of users. On the right hand side of the screen you will see the details of the new person.



The name of the person will be filled in and in addition, if you are on the Hosting Service, their other known details will also default.

- 8 You should now type in the following user details if the fields are blank:
  - **Name**  
The full name of the person should already be complete.
  - **Login Name**  
The name the person uses to log in to your **RAMM** database. This must be completed accurately for your Security to work properly. An incorrectly typed login name may result in the person having no access to the Database.

- **Organisation**

The name of the organisation to which the person belongs. Once you have completed this field the person will be listed under the name of the organisation on the left hand side of the screen. You must complete this mandatory field.

- **Phone**

The land line telephone number of the person

- **Mobile**

The mobile phone number of the person


- **Fax**

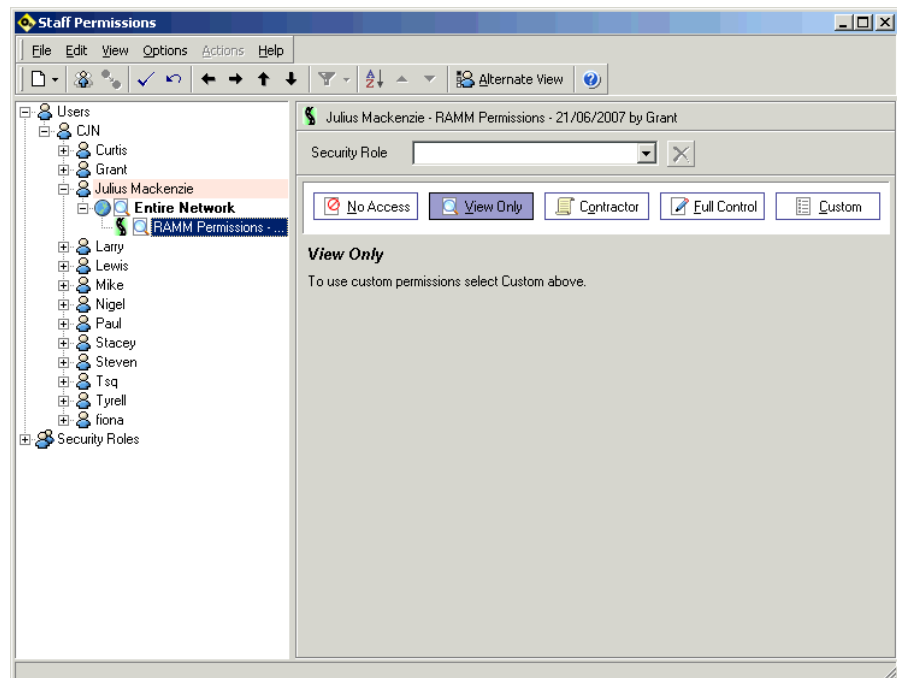
The fax number of the person

- **SMS Mobile**

The mobile phone number of the person on which they receive SMS text messages.

- **[Notes]**. Free-format notes about this user.

- 9 Press the Plus button  adjacent to the name of the person on the left hand side of the screen. When the tree opens, select the RAMM Permissions Record from beneath the Security Zone.




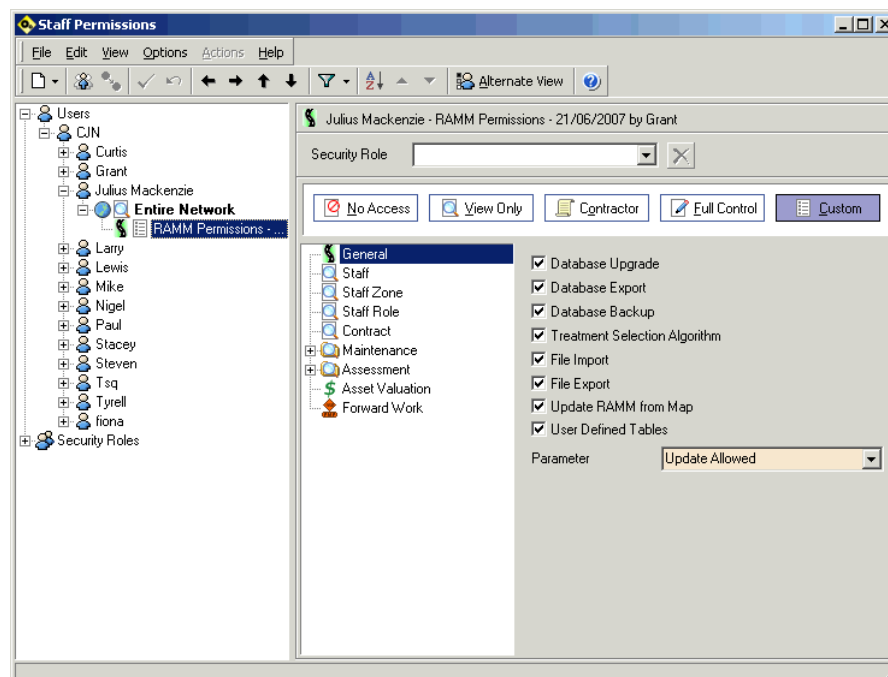
The default Security Profile when you add a new person is **View Only**. This gives them Permission to view all the information in your Database. You can leave the person with this Permission or choose one of the other Global Permission Settings.

The other settings are:

- **No Access**  
The person will not be able to access your **RAMM** Database at all. This person will be rejected when they try to log in.
- **Contractor**  
The person does not need access to **RAMM** or to **RAMM Manager**. They are a Contract Manager using Pocket **RAMM** and **RAMM Contractor**.
- **Full Control**  
The person has full access to your **RAMM** Database to manage all the inventory, condition surveys and to run any process.
- **Custom**  
The person has a set of individual Permissions which do not correspond to one of the Global settings. See Setting Custom Security Permissions (on page 206).

As an alternative you can select one of the predefined Security Roles from the **Security Role** drop-down list.

- 10 Save your changes by pressing **Save Record**  or CTRL+S. A new Profile record with the data entry date is created beneath the Security Role name.





Your changes are effective immediately in **RAMM** but corresponding Informix Permissions are automatically granted or revoked when you close the **Staff Permissions** screen. See Grant and Revoke Permissions (on page 188).


## Changing User Security Settings

When there is a change in how a person uses **RAMM** you will need to update their security settings. This could be because they now have a different role or extra responsibilities.



You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Change User Security Settings

- 1 Launch **RAMM Manager**.
- 2 Follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 3 Select the person whose details you want to change from the list on the left hand side of the screen.
- 4 Beneath the name of the person you will see one or more **Security Zone Profile** records. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing the dated **Profile Records**.



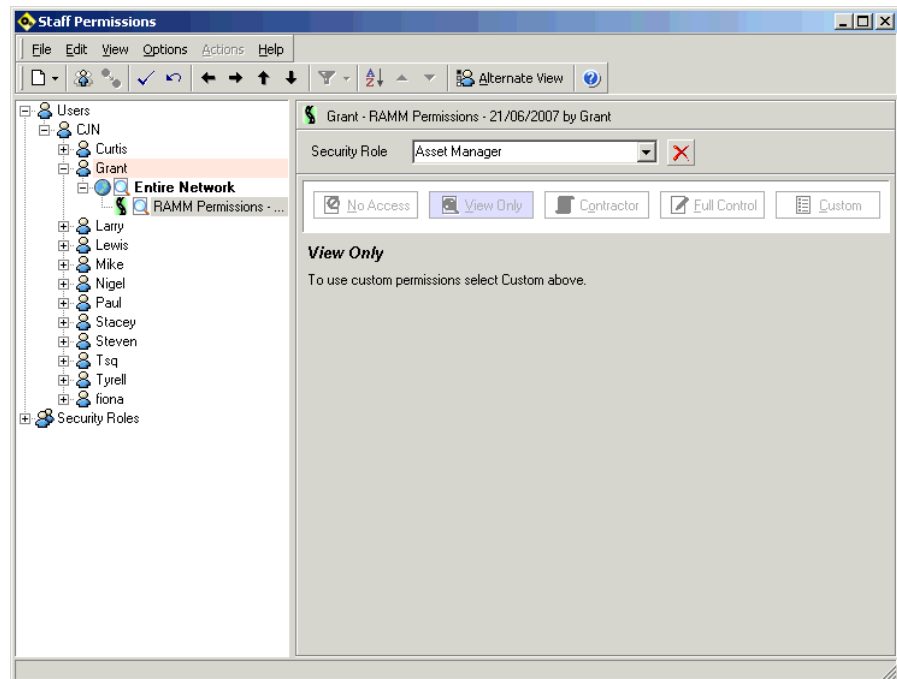
If you choose to display the expired permissions for the person by following the menu path **Options > Show Expired Permissions** you will see any Security Permissions for the person which are no longer valid. You can not change historical Profile records.

**5** Add or change the **Security Role** details for the person.

- **Name**  
The full name of the person should already be complete.
- **Login Name**  
The name the person uses to log in to your **RAMM** database. This must be completed accurately for your security to work properly. An incorrectly typed login name may result in the person having no access to the Database.
- **Organisation**  
The name of the organisation to which the person belongs. Once you have completed this field the person will be listed under the name of the organisation on the left hand side of the screen. You must complete this mandatory field.
- **Phone**  
The land line telephone number of the person
- **Mobile**  
The mobile phone number of the person
- **Fax**  
The fax number of the person




- **SMS Mobile**  
The mobile phone number of the person on which they receive SMS text messages.
  - **[Notes]**. Free-format notes about this user.
- 6 Select the **Profile Record** of the person. The details will appear on the right hand side of the screen.



- 7 Either:
- Select a standard **Security Profile** from the buttons across the top of the right hand side of the screen. The current **Profile** is highlighted in blue. Or
  - Set **Custom Permissions**. See [Setting Custom Security Permissions](#) (on page 206). Or
  - Select one of the predefined **Security Roles** from the **Security Role** drop-down list at the top of the right hand side of the screen.



You can not change the **Profile** of a **Security Role** without looking at the details of the person. See [Changing Security Role Settings](#) (on page 195).

- 8 Save your changes by pressing **Save Record**  CTRL+S.  
A new **Profile** record with the data entry date is created beneath the name of the **Security Role**.



Your changes are effective immediately in **RAMM** but corresponding Informix Permissions are automatically granted or revoked when you close the **Staff Permissions** screen. See Grant and Revoke Permissions (on page 188).

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

## Setting Custom Security Permissions

When you are adding or changing user Security Settings, you may need to customise their access to parts of **RAMM** within a Security Zone, particularly if the person needs to run processes.




You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

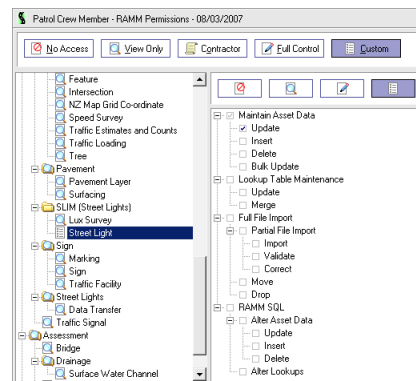
### ► To Set Custom Security Permissions


- 1 Launch **RAMM Manager** and follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 2 Select the person or **Role** whose details you want to change from the list on the left side of the screen.
- 3 Beneath the name of the person you will see one or more **Security Zones**. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing them. **Security Roles** do not apply to specific Security Zones. So you will not see Security Zones underneath a Security Role.
- 4 Beneath the Security Zones, or beneath the **Security Roles** of the person you will see one or more Security Zone dated **Profile** records. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing the dated **Profile** records. Select the record you wish to change and the details of the current **Permission** settings will display on the right side of the screen.

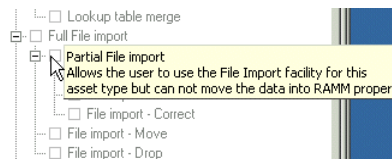


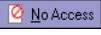

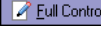

If you choose to display the expired Permissions for the person by following the menu path **Options > Show Expired Permissions** you will see any Security Permissions for the person which are no longer valid. You can not change historical **Profile** records.

- 5 If the user or Role already has Custom Permissions, the Custom Global Setting switch will be highlighted in blue and the details will be displayed.  
If the user or Role does not already have Custom Permissions, press the Custom Global Setting button .
- 6 You will notice that Permissions are grouped together into related items shown in the tree in the middle section of the screen.

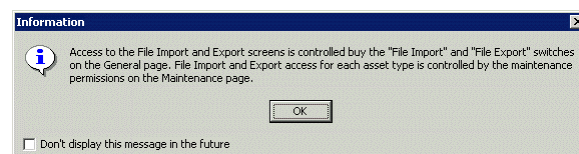



- Some groups have further Permission Groups listed under their name. If you can not see them then press the adjacent Plus button  and the tree will open.
- When you select a group, the Permissions for each task in that group are listed in the Custom Permissions panel on the right hand side of the screen.
- For information about a particular task, point to it and a Tool Tip appears:



- To quickly change permissions for all the tasks in the selected group, press on one of the standard Profile icons. There are standard Profiles for No Access , View Only , or Full Control . The current Profile is highlighted in blue and you can see its icon to the left of the Permissions Group.
- To customise Permissions for specific tasks, go to the Standard Profiles panel and press . You can then select and clear Permissions one by one. A selected Permission signifies that the user or Role has Permission for that task. For examples see Examples of Customised Security Permissions (on page 211).

- 7 **RAMM** will warn you if you need other permissions in addition to the ones which you have selected.



- 8 Save your changes by pressing **Save Record**  CTRL+S. A new **Profile** record will be created for the user in the Security Zone or for the Security Role.




## Removing Custom Security Permissions

When a user no longer needs Custom Permissions, you can revert their settings to one of the Global Definitions or to a Security Role.



You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.

### ► To Remove Custom Permissions from a User

- 1 Launch **RAMM Manager** and follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 2 Select the person, from whom you wish to remove **Custom Permissions**, from the list on the left hand side of the screen.
- 3 Beneath the name of the person you will see one or more Security Zones. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing them.
- 4 Beneath the Security Zones of the person you will see one or more dated **Profile** records. If you can not see them then press the adjacent **Plus** button  and the tree will open revealing the dated **Profile** records. The most recent **Profile** will be at the top of the list. When you select the record which you wish to change, the details of the current Permission settings will be displayed on the right hand side of the screen.
- 5 Remove the Custom Permissions from this user by performing one of the following actions:
  - Define the **Permissions Profile** for the **Security Role** by selecting one of the Global settings:
    - No Access
    - View Only
    - Contractor
    - Full Control or
  - Select one of the predefined **Security Roles** from the **Security Role** drop-down list at the top of the right hand side of the screen or
  - From the menu at the top of the **Staff Permissions** screen, follow the menu path **Edit > Use Default**. This can also be done from the tool bar at the top of the **Staff Permissions** screen by pressing the **Use the All Users Permissions**  button.

## Using the Alternative View


When you want to see which users have which Permissions you can use the **Alternative View** of the Security Profiles. You can also use this screen to manage Profiles for individual users if you prefer.

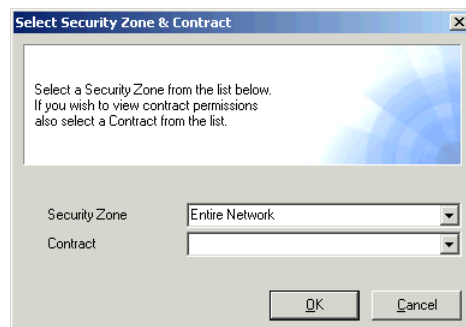


**NOTE**

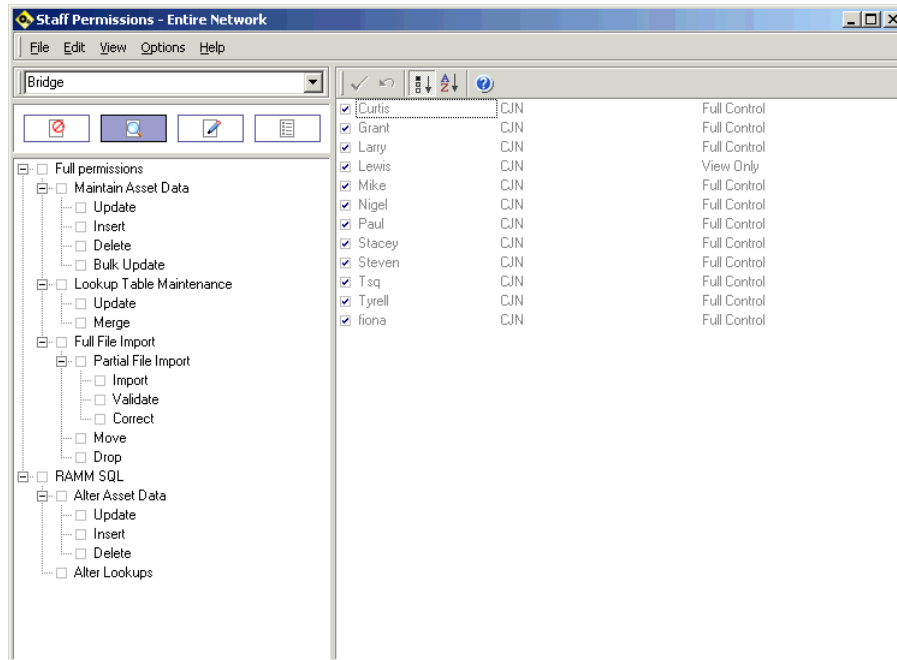
You will need to have the correct Security Permissions before you can perform this procedure. See your Systems Administrator for assistance if required.


### ► To Change User or Security Role Permissions

- 1 Launch **RAMM Manager**.
- 2 Follow the menu path **Maintenance > Staff** to open the **Staff Permissions** screen.
- 3 Press **Alternate View**  to open the **Select Security Zone and Contract** dialog.



- 4 The default value at the **Security Zone** drop-down list will be **Entire Network**. Select a different Security Zone from the **Security Zone** drop-down list if required.
- 5 Select, from the **Contract** drop-down list the Maintenance Contract for which you wish to view the **Security Profile** if appropriate.
- 6 Press **OK** to open the **Staff Permissions** screen in its **Alternate View**.



- 7 Select one of the **Permissions Groups** from the (unnamed) **Permissions Groups** drop-down list at the upper left hand side of the screen. The available options will be listed below. A list of **Users** will be displayed in the panel on the right hand side of the screen.
- 8 You can see from the list of users displayed in the panel on the right hand side of the screen, whether or not each user has the selected **Permission** in their current **Security Profile**. If you wish to add the selected **Permission** to a person or to a **Security Role** which does not have it, select the check box adjacent to the name of the person or **Security Role**.
- 9 Save your changes by pressing **Save Record**  or CTRL+S. A new **Profile** record with the data entry date will be created for each of the updated people or **Security Roles**.



Your changes are effective immediately in **RAMM** but corresponding **Informix Permissions** are automatically granted or revoked when you close the **Staff Permissions** screen. See **Grant and Revoke Permissions** (on page 188).

## Examples of Customised Security Permissions

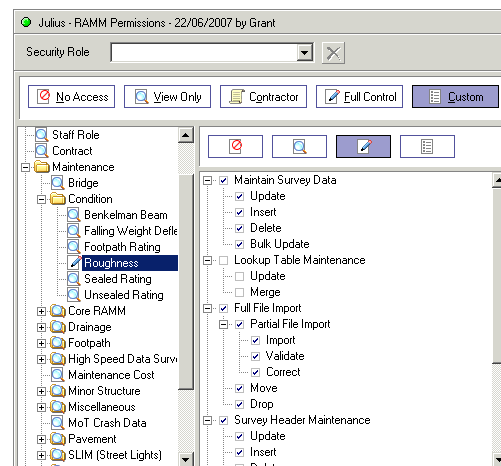
**RAMM** allows you to be very flexible about which combinations of Permissions you assign to each user. See Setting Custom Security Permissions (on page 206).

Please view the following examples:

- Roughness Surveyor (on page 211)
- Data Entry Operator (on page 212)
- Bridge Inspector (on page 211)
- Asset Valuer (on page 213).

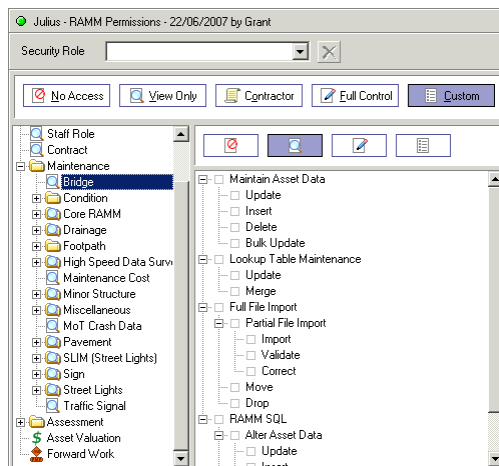
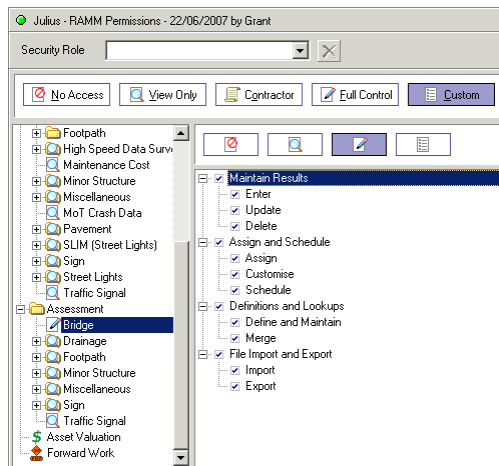
### Roughness Surveyor

This user can view Carriageway and Road Name data for this Security Zone, so that they can export the information before doing a Roughness Survey. They also have Full Access to the Roughness Survey tables.



### Bridge Inspector

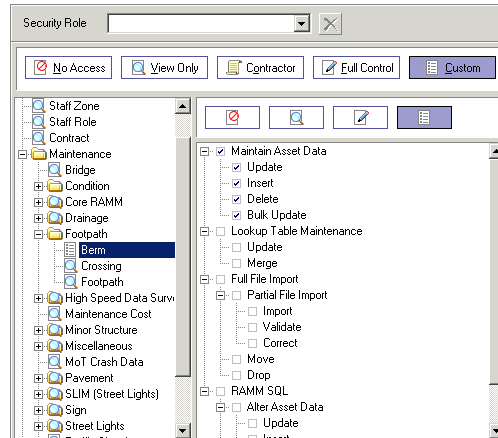
This user can create and enter Bridge Assessment data, but has no other access.



## Data Entry Operator

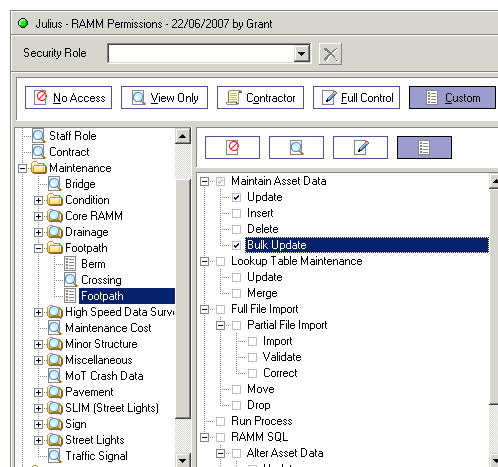
This user can enter data into all Asset and Condition tables, but cannot change Carriageway data. The user has no access to Asset Valuation or Assessment data.





## Asset Valuer

In addition to Permission for Asset Valuation, this user can maintain asset data for the Entire Network, but can not insert or delete assets. The user has View Only access for everything else.





# Glossary

## Database

This is a structured collection of data that is stored in a computer so that an application can consult it to answer queries. In **RAMM**, this is a particular Road Network. It is possible that you will use more than one **RAMM** database, especially if you work with more than one Road Controlling Authority.

## Detail Screen

Detail screens in **RAMM** are used for working with Road Inventory, Condition and other items one at a time. You use them to view and maintain details for one item only at a time.

## dTIMS

Deighton Total Infrastructure Management System (dTIMS) is a software tool used to model Pavement Deterioration. **RAMM** provides a method of extracting Treatment Length, Maintenance Cost and related data from the Road Network in a format that can be imported into dTIMS.

## Filter (Database Filter, Grid Filter)

Filters are the screens which you use to sort the data in Detail or Grid screens according to selected criteria. You use these to streamline the

information you see in **RAMM** such as in the Roads list panel.

## Grid Screen

The Grid screen in **RAMM** is a visual report writer. You use Grid screens to work with multiple Road Inventory, Condition and other items. You adjust the Grid Layout so that it looks right and it suits your purposes. You can then view, export or print the displayed details.

## Hosting

The **ROMAN II Hosting Service** is a service run by **ROMAN II**. It enables you to run **RAMM** across the Internet. It hosts your database and the software on a server at a centralised location. You use your standard internet browser to access the software and work with your data, so you do not need any specialised software. It is very secure.

## LTNZ

Land Transport New Zealand (LTNZ) was a Crown entity formed to promote land transport sustainability and safety. It allocated government funding for land transport. Its functions have now been taken over by the NZTA.

## MARG

The Maintenance Allocation Review Group (MARG) is part of the New Zealand Transport Agency (NZTA).

The methodologies used in the Maintenance Allocation Review

Group (MARG) calculations are the Pavement Area Treatment Index (PATI) and the Resealing Index (RI).

## MIS

The Maintenance Intervention Strategy (MIS) is a detailed statement of the maintenance activities that will be carried out within the Treatment Lengths identified in the Forward Work Programme (FWP).

It is prepared and reviewed in accordance with the New Zealand Transport Agency (NZTA) SHAMM. Definitions are maintained nationally by NZTA.

## Network

A Network is a collection of Roads managed by a particular Road Controlling Authority (RCA). Each **RAMM** database usually contains all the information for one Network.

## NMA

A Network Management Area (NMA) is the section of the Roding Network for which a Consultant is responsible. NMAs are associated with MIS codes.

## NOMAD

The National Optimisation of Maintenance Allocation by Decade (NOMAD) is the software component providing Pavement maintenance and treatment information at a project level for up

to 20 years on behalf of the NZTA. It is also known as **RAMM** Forward Work Programme and is interlinked with dTIMS, the decision tool for future works and the Annual Plan process.

## Null

This means blank or having no value. Some **RAMM** fields must have a value. These fields are highlighted with a coloured background.

## NZTA

The New Zealand Transport Agency (NZTA) is the Crown Entity responsible for State Highways. These are the strategic Roads and motorways that are about 12% (10,894 km) of all New Zealand Roads, but account for about half of the 36 billion vehicle kilometres travelled every year. It promotes land transport sustainability and safety and allocates government funding for land transport.

## RAMM

Road Assessment and Maintenance Management (**RAMM**) is software developed and supported by **RAMM Software Limited**. This software is used by Road Controlling Authorities (RCAs) to manage Road Inventory Assets and Condition for their Network.

## RCA

A Road Controlling Authority (RCA) is the organisation

responsible for a particular Road Network. An example of an RCA could be the New Zealand Transport Agency (NZTA) or a TLA (Territorial Local Authority).

### Record

This is a collection of information about a single object. In **RAMM** it is a grouping of all the details about a particular item such as a Berm or Street Light. You maintain single record details in a Detail screen.

### RMCE

Routine Maintenance Cost Estimation (RMCE) curves provide the basis of cost estimation for Maintenance Intervention Strategies (MIS).

### Road Asset

A Road Asset is a detail about a particular aspect of a Road. It could be the Pavement layers, Condition or other aspect.

### SHAMM

The New Zealand Transport Agency (NZTA) State Highway Asset Management Manual. It is also known by its code SM020 and is available off the internet at SHAMM ([http://www.transit.govt.nz/technical/view\\_manual.jsp?content\\_type=manual&=edit&primary\\_key=18&action=edit](http://www.transit.govt.nz/technical/view_manual.jsp?content_type=manual&=edit&primary_key=18&action=edit)).

### SIS

The Safety Intervention Strategy (SIS) is a plan developed to ensure safety for each network maintenance management contract. It is prepared and reviewed in accordance with the New Zealand Transport Agency (NZTA) SHAMM.

### Table

This is a container in the **RAMM** database that holds all the records about an aspect of all Roads in the database. This could be their Berm or Shoulder details for example. Each table holds all the information about only one aspect of all the Roads.

### TNZ

Transit New Zealand (TNZ) was the Crown Entity responsible for State Highways. Its functions have now been taken over by the NZTA.

### TSA

The Treatment Selection Algorithm (TSA) is the formula used to calculate optimal Forward Work.



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