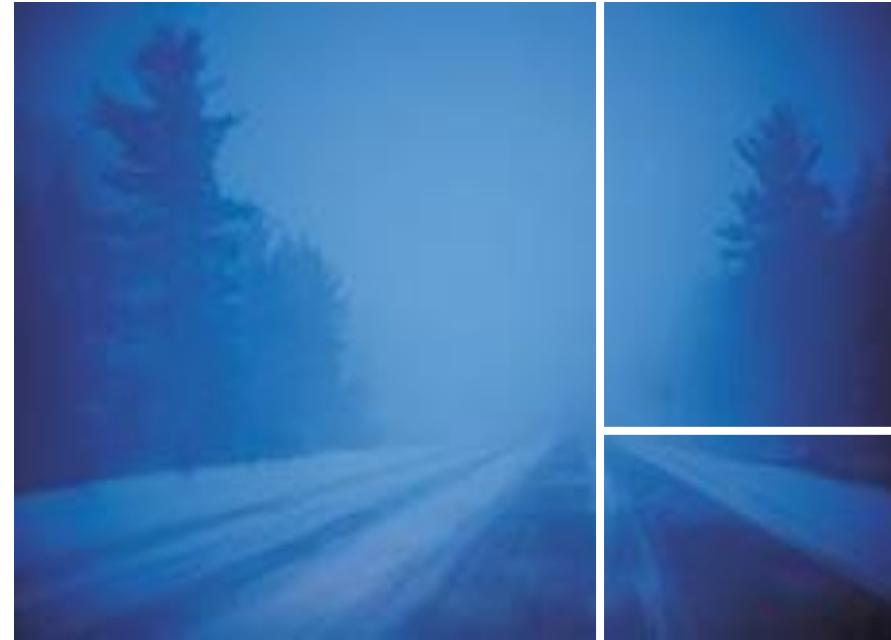




Exor Corporation Limited

Exor Leading the way in Infrastructure Asset Management Solutions



Maintenance Manager Inspection Loader v4.3



***The Global Leader in
Infrastructure Asset Management***





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Quality Assurance Statement

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Bulk Loading Inspections

Before starting to load inspection data you should have loaded your network and checked the reference data meets operational requirements using the relevant process and modules.

The following *Product Options - H/G9130* will also need checking to ensure the system is configured to match the organisation's business process requirements. Product options are usually set up and maintained by the system administrator.

DEFMATPAR

Default matching defect parameter.

Enter a numeric value that will represent the minimum distance between defects allowed for automatic defect superseding when using the inspection loaders. Superseding is an automatic process and therefore does not take place when defects are loaded manually using *Locator Create Defects – MAI3807, Inspections – MAI3808 or Enquiry Manager – DOC0150*.

The superseding of defects will automatically take place if two defects are found within the same chainage tolerance and XSP.

Superseded defects can be maintained using *Match Duplicate Defects – MAI2739* and *Unmatch Duplicate Defects – MAI2760*.

Defect superseding can also be viewed in *Defects – MAI3806*.

Note, the superseding of defects has been enhanced with the new **Defect Superseding Rules – MAI4406** modules in Version 4.3

DEFPRIDATE

Set repair date on change of priority.

Enter "Y" or "N".

This determines whether or not the repair due date should be recalculated automatically when a defect priority is amended.

In *Defects - MAI3806*, if this option is set to Y then the repair due date is recalculated.

This option may be amended on a live system.

DEFSUPRES

Supersede Repair Date Due.

Enter "Y" or "N".

If set to "N" then when superseding, repair due date will be set as if the defect is new. If set to "Y" then the repair due date will be set to the superseded defects repair due date.

DEFSUPTYPE

Defect Superseding Type

Enter "1" or "2".

This is used when defects are loaded using the Inspection Loader and has the following effect on superseding:

If set to "1" superseding occurs if a previous defect:

- Is on a different inspection.
- Has the same Inventory Code.
- Has the same Activity Code.
- Has the same Defect Code.
- Is located on the same Section.
- Has a Start Chain within the tolerance set in product option DEFMATPAR (defaulted to +/-5m if the option is not set).
- Has the same XSP.
- Has the same Roadstud Advisory/Mandatory value.
- Is not already superseded.
- Is not already COMPLETED.

If set to "2" superseding occurs the same as option 1 with the following additions:

- Is on a different Inspection (*with the same Initiation Type and Safety/Detailed Flag*).
- Has the same Priority Code.

MANINSACT

Safety Inspection Act. Code

Enter a valid activity code.

This is the default Safety Inspection Activity Code for Inspections by Group. Inspection Activities are set up using *Activities - MAI1200*.

NOTREFOUND

Not Refound.

Enter "OFF", "ALL" or "PRI".

Any defects not found from a subsequent inspection will be marked as complete under the following circumstances:

OFF - Not refound code ignored

ALL - Not Refound code on and runs for all Defects of whatever priority

PRI - Not Refound code on and runs against all Defects EXCEPT Cat 1s.

REPCOMDATE

Entry of repair complete date;

Enter "Y" or "N".

This option determines whether a defect can be completed manually from *Inspections - MAI3808*,

If set to "Y" then users will be able to enter a repair completion date and the defect status will be automatically updated. If set to "N" then the repair completion date will be non-enterable. This is usually the case when *Work Orders - MAI3800* is in use.

REPSETPERD and REPSETPERL

Auto setting of perm. Date due.

Enter "Y" or "N".

Enter “Y” to force the system to compute repair due dates for single permanent repairs to be based on the rules of the temporary repair.

RESTYPACC

Response type for accepted notifiable defects

This option must be set to a valid response code on defect notifications. These values are set up using *Domains - HIG9120* and updating the **RESPONSE_TYPES** option. It defines the code used to indicate that a defect has been accepted by an organisation in *Responses to Notices - MAI3816* this option is used to determine if a defect has been accepted by a different organisation

This option must not be changed on a live system.

USEDEFCHND and USEDEFCHNL

Use chainage on DoT and Local defects, respectively.

Enter “Y” or “N”.

This option determines whether chainage and XSP values are recorded on defects. In *Load Inspections - MAI2200*, if this option is set to “Y” then chainages must exist on the load file and superseding of defects will take place. If set to “N” then chainages will be set to null and there will be no superseding.

When loading inspections using *Inspections - MAI3808*, if this option is set to “Y” then chainages must be entered. If set to “N” then chainages are non-enterable.

This option must not be amended on live systems.

USEDEFCRDS

Use Defect Coordinates.

Enter “Y” or “N”.

If set to “Y” the system will store the defects x and y co-ordinates.

General Information

Most inspection data will be entered using the **Maintenance Inspection Loader – MAI4400**. This handles input from a Data Capture Device (DCD). However, individual reports on inspections may be entered using either *Inspections – MAI3808* or *Inspections by Road Group – MAI3899*.

There will be times when a defect is reported more than once at the same location. The system will supersede these defects automatically with the **Defect Superseding Rules - MAI4406** if loaded via the loader. In order to manually associate a reported defect with another as duplicate you should use either **Match Duplicate Defects – MAI2730** for defects that do not have an associated chainage or Product Option *USEDEFCHND* (for DoT defects) or *USEDEFCHNL* (for local defects).

If having designated two reported defects as duplicated with each other this is later found to have been the wrong action, you may remove this association using **Unmatch Duplicate Defects – MAI2760**.

When bulk loading inspections you will generally be loading data that has been collected with the aid of one of the following:

- Text based DCD
- Map based DCD
- Voice activated DCD

The **Maintenance Inspection Loader – MAI4400** transfers data collected on the DCD to the main *highways* database.

Automated processes can be used if required so all the inspector needs to do is place the inspection file into an FTP site defined by the system administrator

The data that is loaded onto the system is validated using the road network and the reference data that has been set up. (Refer to Maintenance Manager Administration Guide for further information.)

Inspection reference data can be written to a file suitable for download onto a DCD using:

- Download Network Data for DCD Inspections – MAI2224
- Download Static Reference Data for DCD Inspections – MAI2220
- Download Standard Item Data for DCD Inspections – MAI2222
- Download Inspections by Asset – MAI3863

Diagram of Process

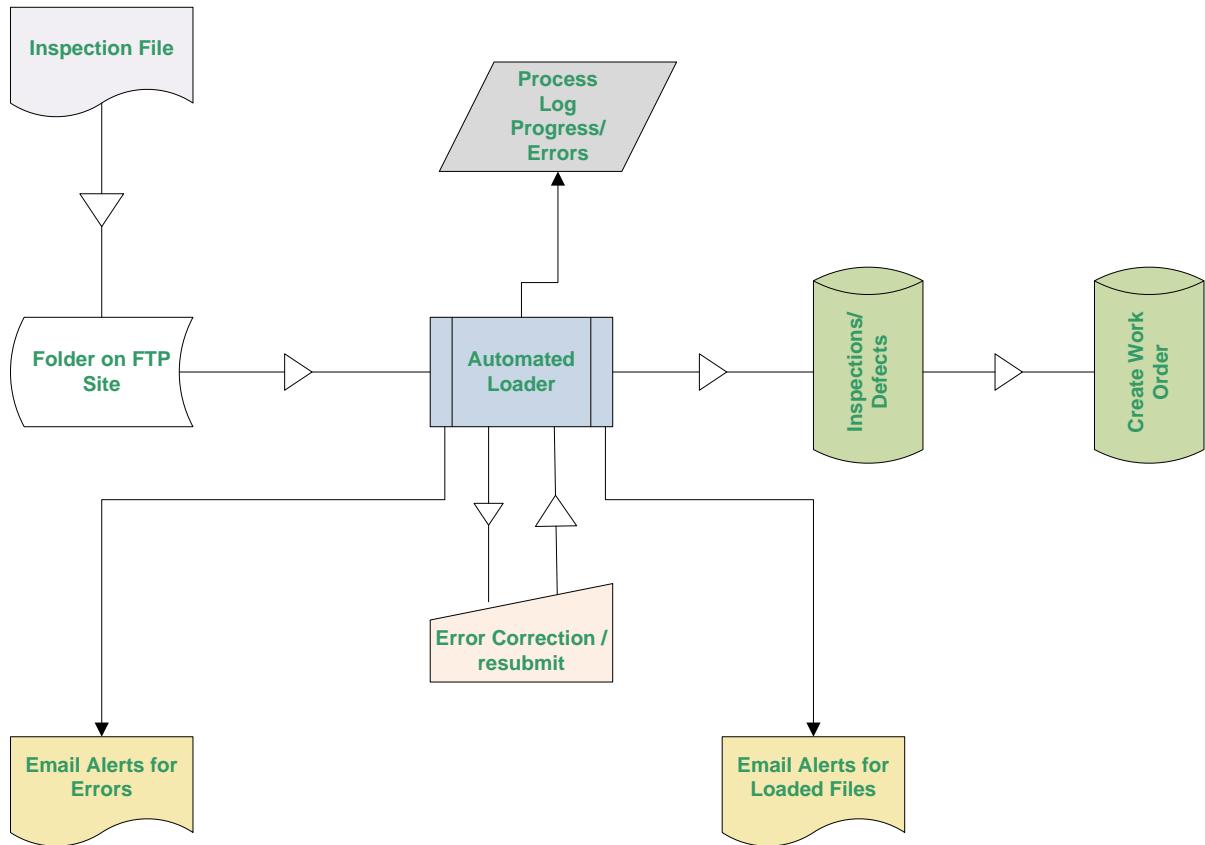


Diagram of Automatic Inspection Load Process

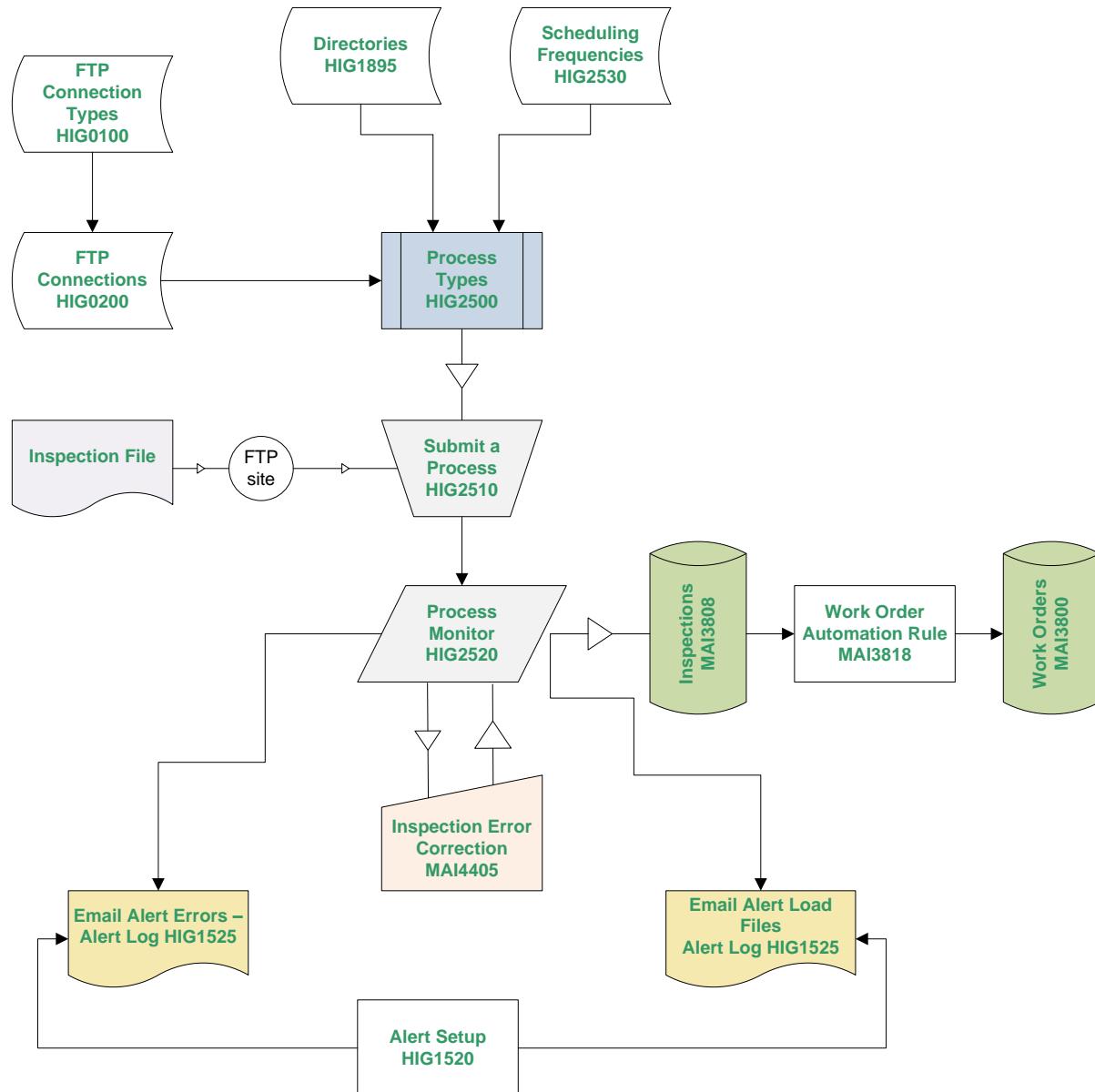
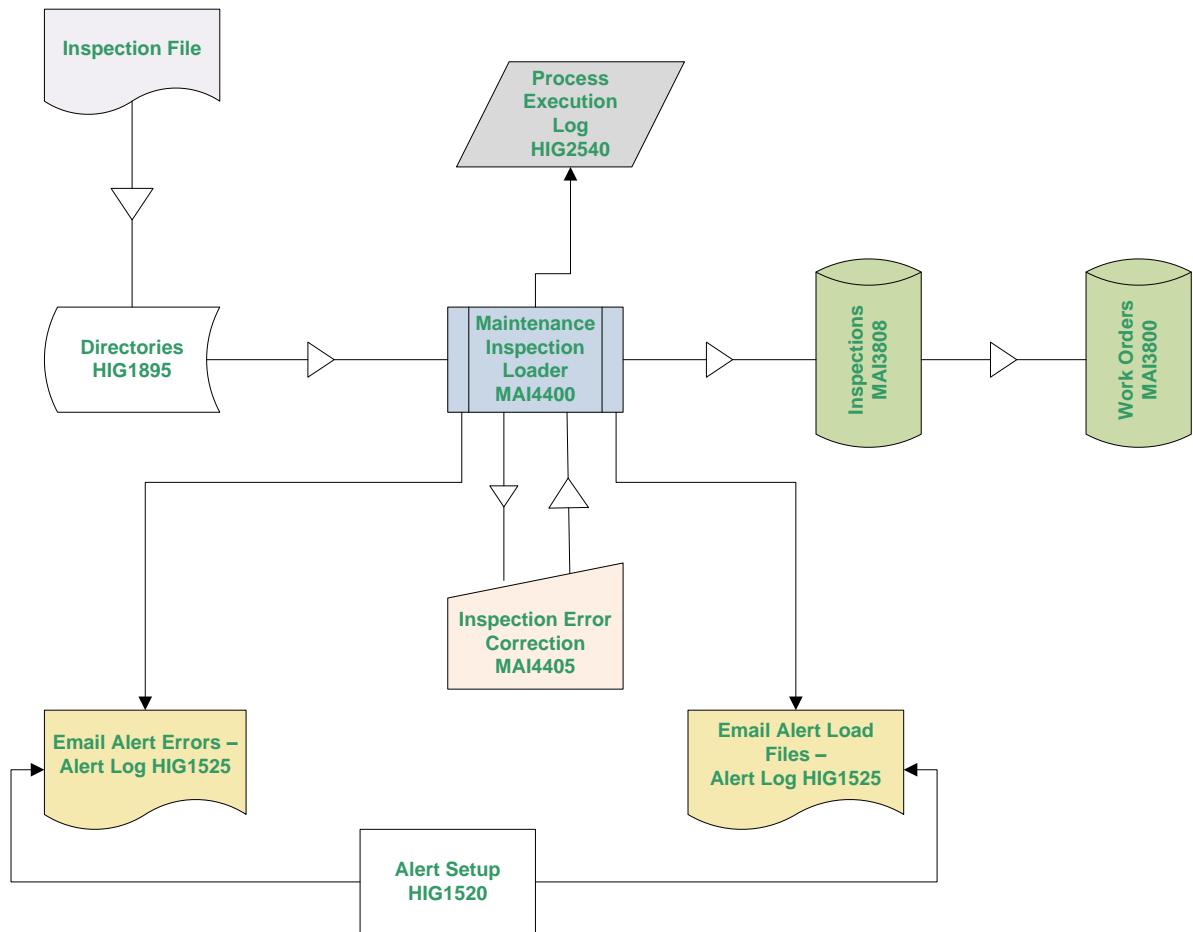


Diagram of Manual Inspection Load Process



Associated Modules

For information on the following associated modules refer to Exor General System Admin Guide:

- FTP Connection Types – HIG0100
- FTP Connection – HIG0200
- Scheduling Frequencies – HIG2530
- Process types – HIG2500
- Submit a Process – HIG2510
- Process Monitor – HIG2520

Directories – HIG1895

Figure 1
Directories menu

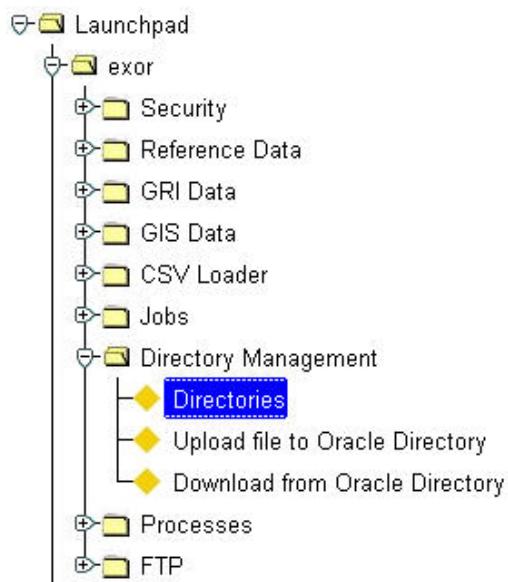


Figure 2
Directories

Name*	File System Path	Exists
TMA_DCD_INSP_EXPORT_DIRECTORY	C:\Inspections\DDC	[+]
TMA_INSP_EXPORT_DIRECTORY	C:\Inspections	[+]
TMA_INSP_FAIL_DIRECTORY	C:\Inspections\Fail	[+]
TMA_INSP_IMPORT_DIRECTORY	C:\Inspections\Upload	[+]
TMA_INSP_PASS_DIRECTORY	C:\Inspections\Pass	[+]
CIM_ARC	<to be specified>	[+]
MAI_INSP_DIRECTORY	D:\databases\WOLVESEV\reports\	[+]

Role*	Mode*	Applied
MAI_USER	NORMAL	[checkbox]
		[checkbox]

General Information

This form is used to enter a directory under the MAI_INSP_DIRECTORY option.

The directory specified is the directory on the server database that a selected file is uploaded to by the form when performing a manual inspection load. It is also the folder that the FTP polling process moves files to from the FTP site. The inspection loader then picks up the files from this directory and loads them into the database.

Name	Mandatory
The name of available directories will be displayed. For setting up the Inspection Loader the option MAI_INSP_DIRECTORY should be selected.	
File System Path	Required
Enter a valid directory that will be used in the inspection load process.	
Exists	Display Only
This option will be checked to show that the directory entered is a valid directory.	

Roles Tab

Role	Mandatory	List
Enter the role that the user must be granted in order to write to the directory.		
Mode	Mandatory	List
Enter the mode of access of the role defined that the user must be granted in order to write to the directory.		

Maintenance Inspection Loader- MAI4400

Figure 3
Maintenance Inspection Loader
Menu option

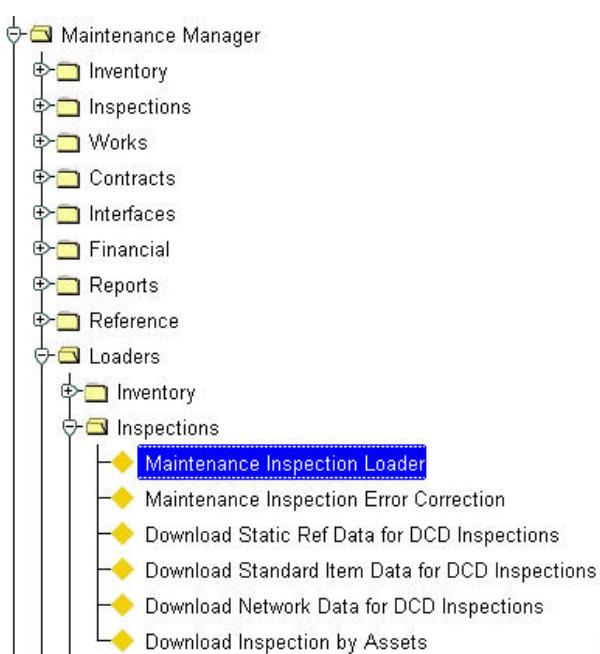
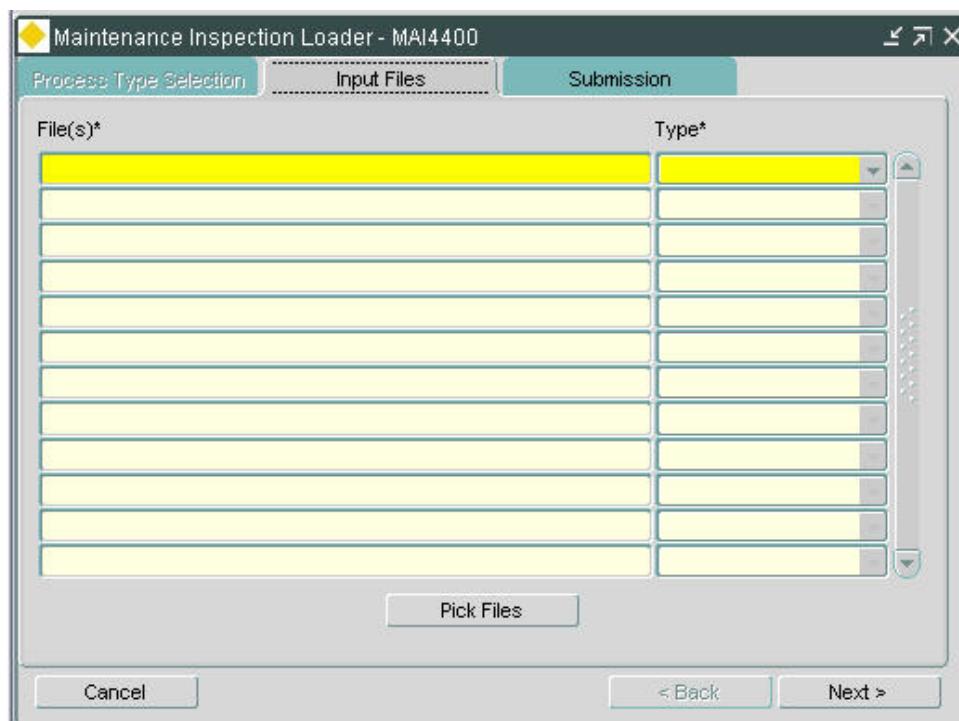


Figure 4
Maintenance Inspection Loader



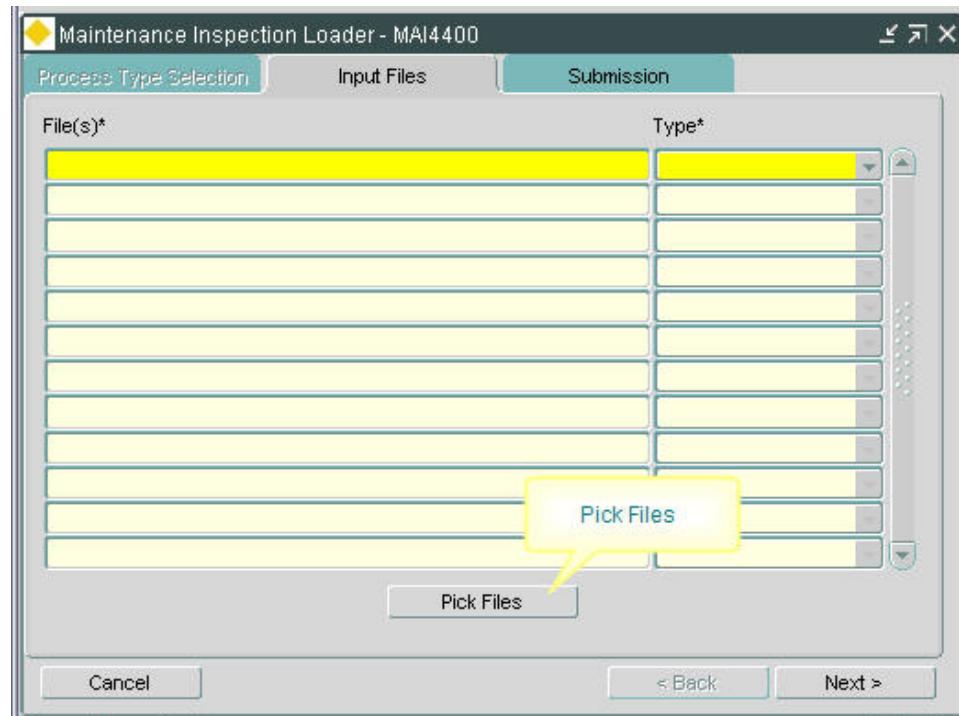
General Information

Inspection files can be loaded into maintenance manager in one of two ways. It can be done manually by picking the individual files for load or can be done automatically.

Note: For details of setting up an automatic process for inspection loading refer to the appropriate section of this document.

This form is used to manually load inspection files.

Figure 5
Input Files tab



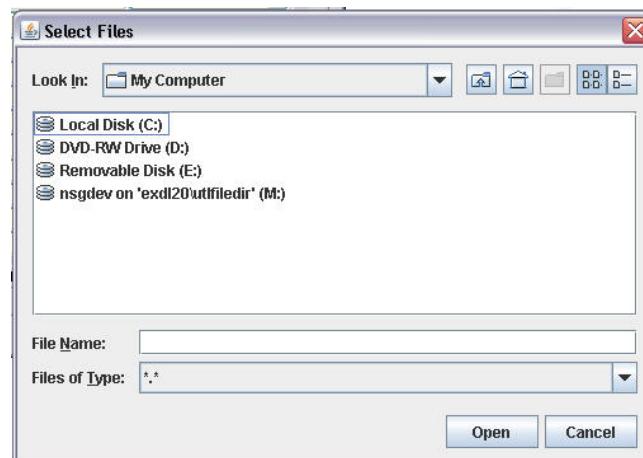
Input Files

The Input Files tab is used to manually select a file to be processed through the inspection loader. The file to be loaded can be selected using the **[Pick Files]** button. This tab is enabled only if the selected process has input file types associated with it.

[Pick Files]

Press this button to bring up the 'Select Files' window where the inspection file to be loaded can be located and selected.

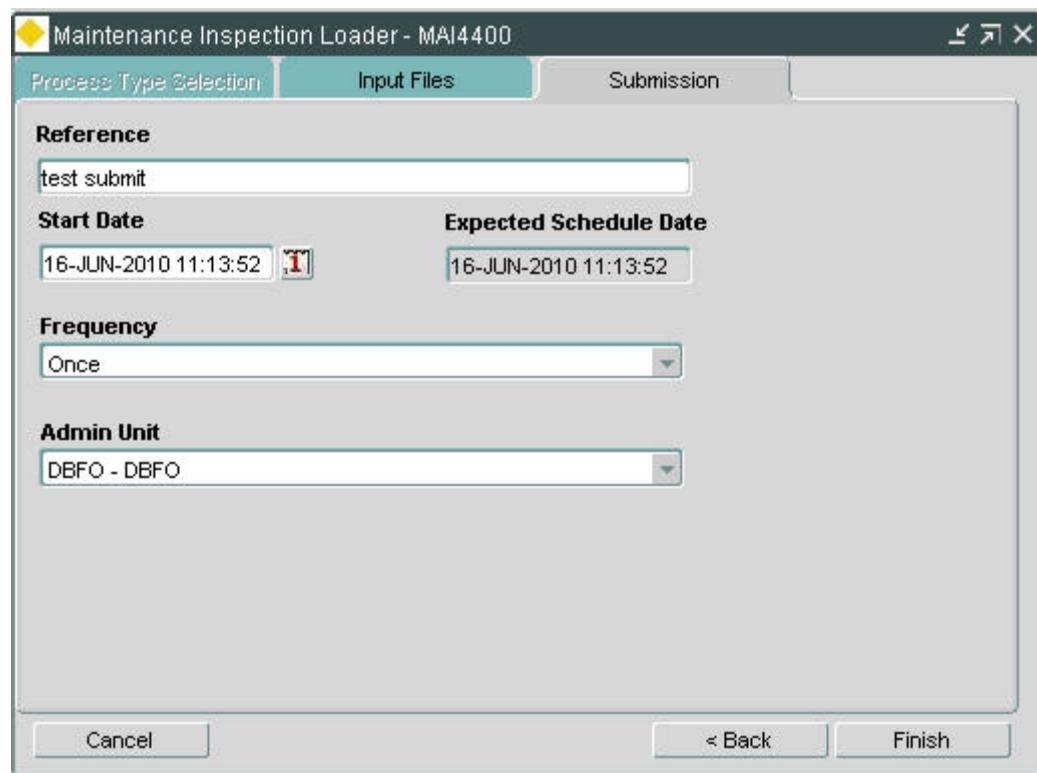
Figure 6
Select Files



Once the file has been located select the **[Open]** button to place it into the Input Files tab.

Files	(Required)
This field will show the filename of the inspection file selected to be loaded.	
Type	(Required)
Select the type of file to be loaded. This will be 'Inspection Files'.	

Figure 7
Submission tab



Submission

Selecting the [**Next**] button on the Input Files tab will open the Submission tab.

The [**Cancel**] button will cancel the load process.

The [**<Back**] button will take the form back to the **Input Files** tab.

Reference	(Optional)
Enter a reference name for the inspection load submission.	
Start Date	(Required)
Enter the date and time the file should be processed. This will default to the current date and time.	
Expected Schedule Date	(Display Only)
This will show the date and time as defined in the 'Start Date' field.	
Frequency	(Required)
The frequency of the inspection load submission will default to 'Once' for manual loading. Scheduling frequencies will have been set up previously in form Scheduling Frequencies – HIG2530 .	

Admin Unit	(Optional)	List
Enter the admin unit to be used for processing the inspection load file if required.		

Select the **[Finish]** button to start the inspection load process.

The **Process Created** window will appear.

Figure 8
Process Created



Process Id	(Display Only)
The process Id of the inspection load will be displayed.	

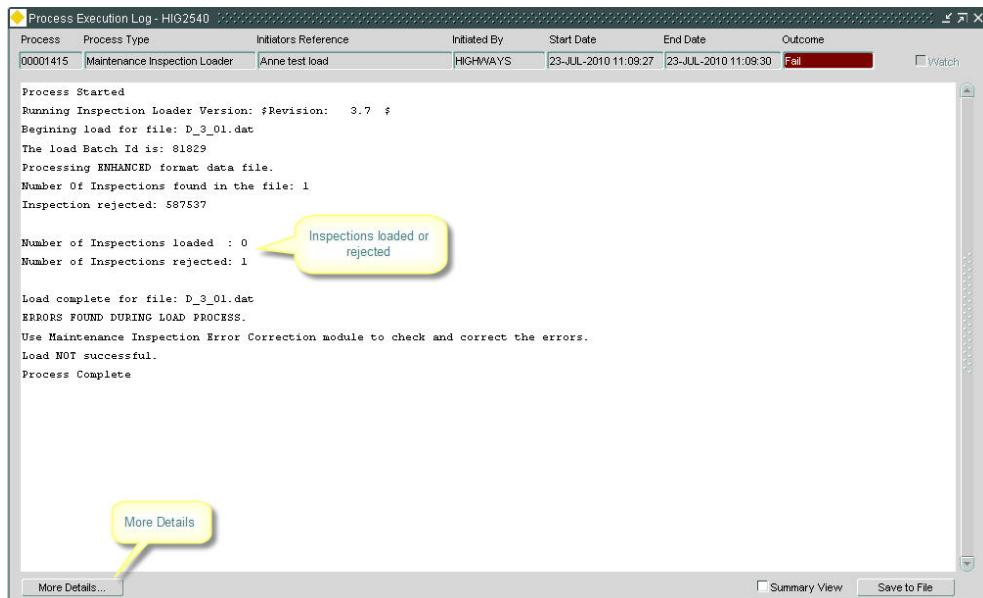
Actual Scheduled Date	(Display Only)
The actual date of the start of the process of the inspection load will be displayed.	

[Exit] will exit the Maintain Inspection Loader form but the inspection load process will continue.

[Process Log] will open form **Process Execution Log – HIG2540**.

Process Execution Log – HIG2540

Figure 9
Process Execution Log



General Information

The Process Execution Log show details of the inspection load including the outcome of either 'Pass' or 'Fail'. This form is for information only.

The Process Execution Log can be called from form **Process Monitor – HIG2520** or by using the [**Process Log**] button in form **Submit a Process – HIG2510** after a process has been submitted.

Process

(Display Only)

The process number of the inspection load will be displayed.

Process Type

(Display Only)

The process type of the inspection load as defined in form **Maintenance Inspection Loader – MAI4400** will be displayed.

Initiators Reference

(Display Only)

The reference of the inspection load as defined in form **Maintenance Inspection Loader – MAI4400** will be displayed.

Initiated By

(Display Only)

The name of the user that initiated the inspection load will be displayed.

Start Date

(Display Only)

The start date and time of the inspection load will be displayed.

End Date

(Display Only)

The end date and time of the inspection load will be displayed.

Outcome

(Display Only)

The outcome of the inspection load will be displayed.

The main part of the form will show a log of all processes that have been carried out for that process Id. Details will include:

- Batch Id
- Errors found during load process
- Number of inspections found
- Number of inspections loaded
- Number of inspections rejected
- Load successful/not successful

If the inspection load was not successful and subsequently corrected and re-submitted the results will be added to the log.

Watch

(Checkbox)

During execution the process execution log will continually add logging details to the screen as the process is taking place. It will re-query the log table every 3 seconds. For large processes there will be masses of details being logged.

Unchecking this box will stop the details from continually being written to the screen.

Summary View

(Checkbox)

Select this box to reduce the contents of the log to a summary view.

For executions that have been completed the **[Save to File]** button will allow the contents of the process execution log to be saved to a specified location.

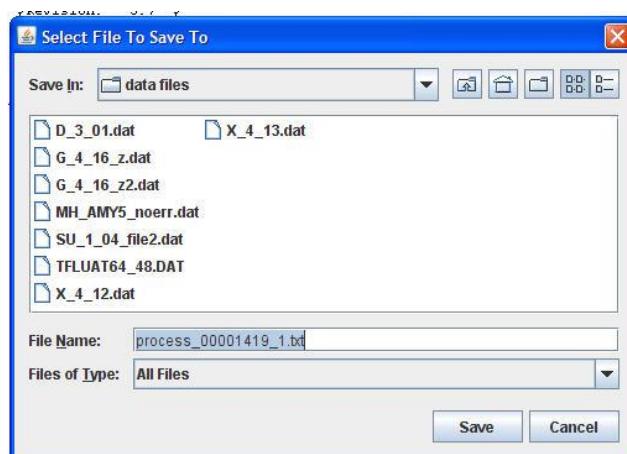


Figure 10
Save to File

The **[More Details...]** button will open form **Maintenance Inspection Error Correction – MAI4405** from where unsuccessful files can be corrected and re-submitted. (For further details on maintenance inspection error correction refer to relevant section in this documentation.)

Maintenance Inspection Error Correction – MAI4405

Figure 11
Inspection Error
Correction
Menu Option

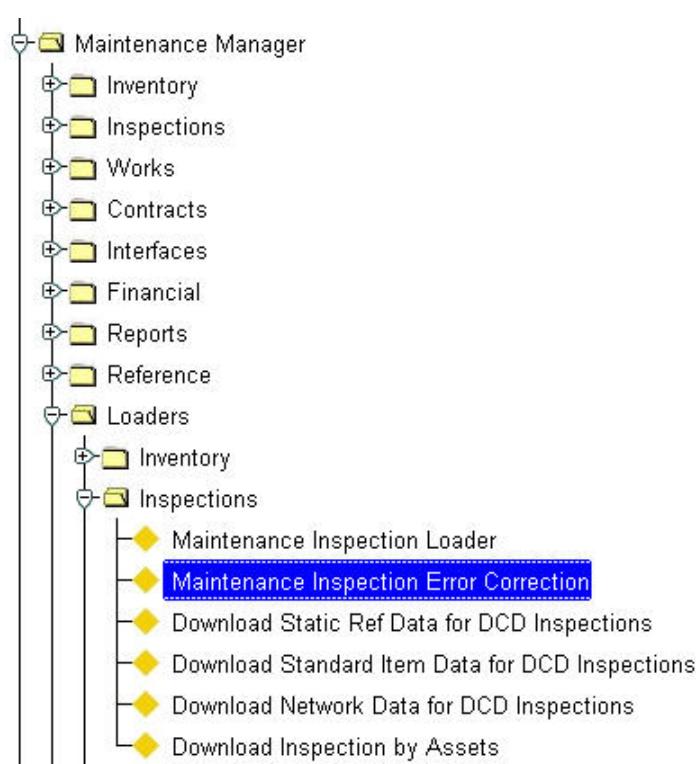


Figure 12
Inspection
Error Correction

Batch Id	Batch File
81612	F_3_01.dat

Record	Sequence*Type* Record Details*	Error No.	Error Details
10	1,1,8,RMMS_F_3_01 Multiple Record Type 1	9520	G record must follow the 1 record:
20	1 ,0,0000U64760,00010,SVS,100525,1133,D,PE,N,,		
30	G ,0,0000U64760,00010,SVS,100525,1133,D,PE,N,,		
40	H ,1J,,		
50	I ,1J,,10,,1133,,		
60	J ,QACO,2H,,		
70	K ,100525,1133		
80	L ,,,		
90	Q ,101.0675C,51,,51		
100	M ,,,		

General Information

This form is used to review and correct the load file after a failed load. Once the changes have been completed the file will have to be re-submitted using the [Re-Submit Batch] button.

The form can be opened from the Maintenance Manager menu or alternatively directly from form **Process Execution Log – HIG2540** by pressing the [**More Details**] button.

Figure 13
Error Correction

Process Id	00001193	Initiator	HIGHWAYS	Last Run Date	01-JUN-2010	Re-Submit Batch
Process Type	Maintenance Inspection Loader	Initiators Reference		Outcome	Fail	

Maintenance Inspection Error Correction

The first part of this form will display details of the inspection load process.

Process Id **(Display Only)**

The internal process Id for the batch load will be displayed.

Initiator **(Display Only)**

The name of the user who loaded the batch file will be displayed.

Last Run Date **(Display Only)**

The date the file was last processed will be displayed.

Process Type **(Display Only)**

This will display 'Maintenance Inspection Loader' for this type of load file.

Initiators Reference **(Display Only)**

The reference quoted in the file submission in form **Maintenance Inspection Loader - MAI4400** will be displayed.

Outcome **(Display Only)**

The outcome will show either 'Success' or 'Fail' for completed inspection loads. For loads to be submitted at a later date the outcome will show 'To Be Determined'.

Figure 14
Invalid Files

		Invalid Files	Invalid Inspections
Batch Id	Batch File		
81612	F_3_01.dat		

Invalid Files

As part of the load process the system performs basic validation checks on the file before the data is transferred. Some of the checks are:

- The basic format of the file is correct.
- Missing or misplaced 'X' records
- The first record of a file is a 'G' record.
- The total number of G, H, I, J, D, K, L, M, N, P, R and S records equal the totals in the X record which is the last record in the file.
- Mandatory fields are populated

If the batch file submitted is invalid details of the errors will be displayed under the 'Invalid Files' tab.

Batch Id

(Display Only)

The Batch Id generated for the load will be displayed.

Batch File

(Display Only)

The batch file name will be displayed.

Figure 15
Record Information

Record	Sequence*	Type*	Record Details*	Error No.	Error Details
10	1	I	1,1,8,RMMS,F,_3_01 Multiple Record Type 1		
20	1	I	1,1,8,RMMS,F,_3_01 Multiple Record Type 1	9520	G record must follow the 1 record;
30	G		,0000064760,00010,SYS,100525,1133,D,PE,N,...		
40	H		1J		
50	I		14,10,,1133,.....		
60	J		QACO,2H,.....		
70	K		,100525,1133		
80	L		...		
90	Q		101.0675C,51,,51		
100	M		...		

Record Information

All data records for the selected batch file will be displayed. Data that has an error can be modified here prior to re-submitting the batch.

Sequence

(Display Only)

The sequence number of the record within the file will be displayed.

Record Type

(Display Only)

This field will display the record type. These types will have associated data in the adjacent field. Valid types are G, H, I, J, D, K, L, M, N, P, R, S and X.

Record Details

(Display Only)

The details contained in this field will depend upon the record type in the previous field. Update the data in this field; the error message will give a guide as to what is wrong with the data.

Error No.

(Display Only)

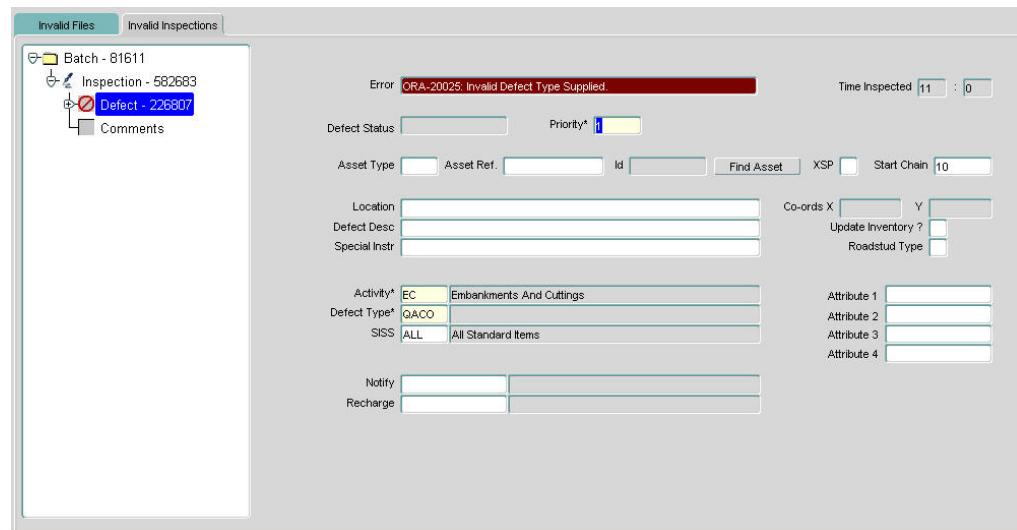
If the data is incorrect the error number will be displayed.

Error Details

(Display Only)

Details of the error in the file will be displayed.

Figure 16
Invalid Inspections



The screenshot shows a software interface for managing invalid inspections. At the top, there are two tabs: 'Invalid Files' and 'Invalid Inspections'. The 'Invalid Inspections' tab is active, showing a tree view of inspection batches. Under 'Batch - 81611', there is an 'Inspection - 582683' node, which contains a 'Defect - 226807' node. This defect node has a red error icon next to it. To the right of the tree view, there is a detailed form with the following fields:

- Error: ORA-20025: Invalid Defect Type Supplied.
- Time Inspected: 11 : 0
- Defect Status: [Text Box]
- Priority*: [Text Box] (highlighted in yellow)
- Asset Type: [Text Box]
- Asset Ref.: [Text Box]
- Id: [Text Box]
- Find Asset: [Button]
- XSP: [Check Box]
- Start Chain: 10
- Location: [Text Box]
- Defect Desc: [Text Box]
- Special Instr: [Text Box]
- Co-ords X: [Text Box]
- Y: [Text Box]
- Update Inventory?: [Check Box]
- Roadstud Type: [Text Box]
- Activity*: EC (highlighted in yellow) Embankments And Cuttings
- Defect Type*: QACO
- SISS ALL All Standard Items
- Attribute 1: [Text Box]
- Attribute 2: [Text Box]
- Attribute 3: [Text Box]
- Attribute 4: [Text Box]
- Notify: [Text Box]
- Recharge: [Text Box]

Invalid Inspections

Once the file has passed the validation checks further more stringent validation checks are performed on the actual data. Some of these checks are:

- The network and associated chainage match what is held on the system.
- The treatment code, defect code and activity areas identified in the file exist in the system.
- The inspectors have been entered onto the system.
- Survey type and direction are correct.
- Complaint date, source code and source type are valid.
- Notifiable and rechargeable organisations exist.

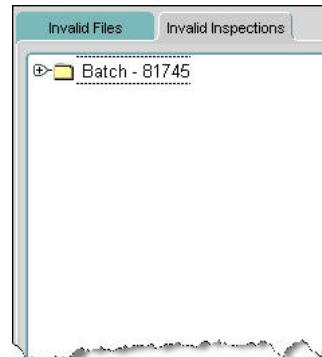
Any data that does not pass the validation checks will be shown under the 'Invalid Inspections' tab.

Data that has an error can be corrected here prior to re-submitting the batch.

Batch

(Display Only)

The batch file number that contains invalid data will be displayed.



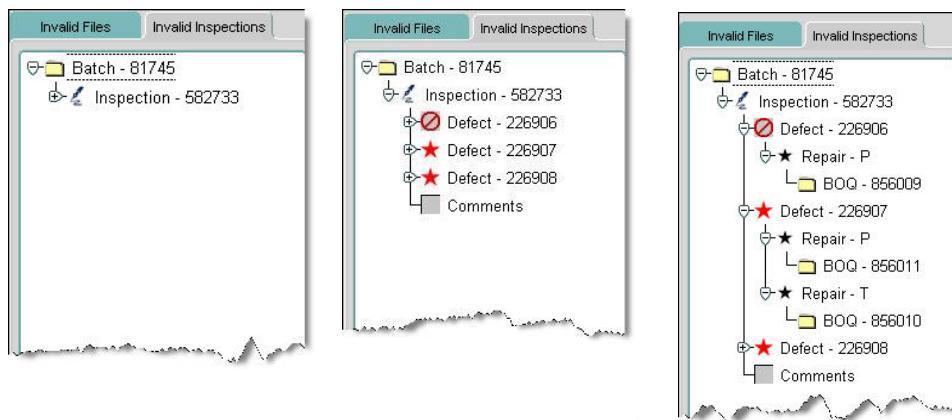
The screenshot shows a software interface for displaying batch files. At the top, there are two tabs: 'Invalid Files' and 'Invalid Inspections'. The 'Invalid Files' tab is active, showing a tree view of inspection batches. Under 'Batch - 81745', there is a single node. The interface is very minimalist, with a light gray background and simple text labels.

Figure 17
Invalid Inspections

Clicking on the + sign against the batch file number will show the inspection data contained in the batch.

Click on the + sign against the inspection and then against the defect to show further details of defect, repair and boq items.

Figure 18
Invalid Inspections tree



Invalid records will be identified with a red circle 

Highlight the invalid record to open up details of the error on the right hand side of the form. The error can then be corrected and the file re-submitted using the [Re-Submit Batch] button.

Figure 19
Invalid Inspections

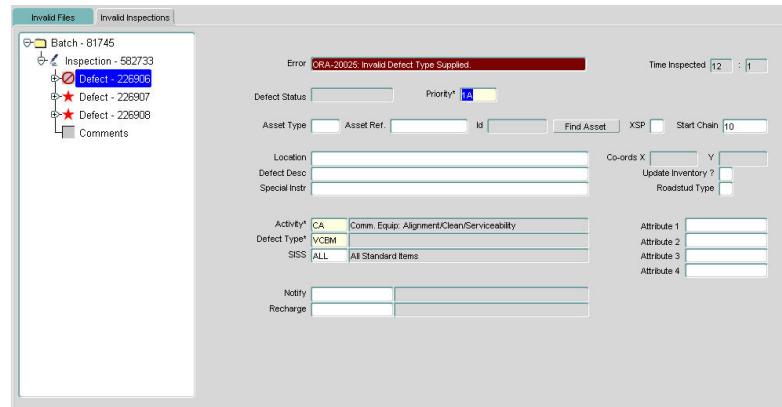
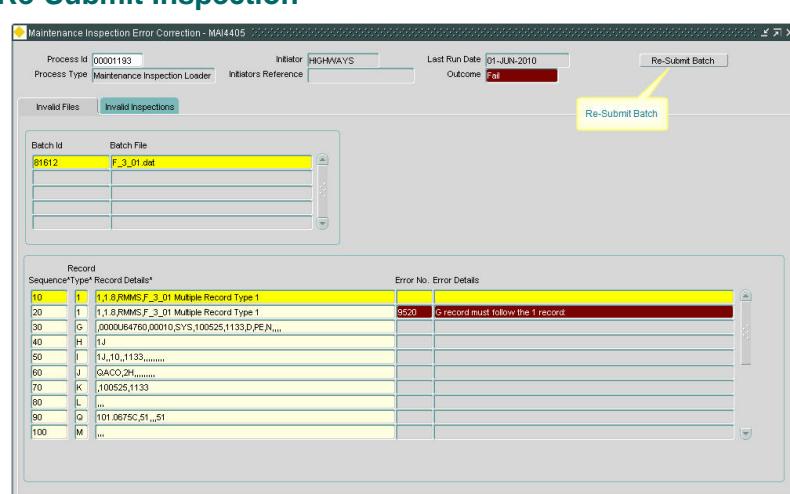


Figure 20
Re-submit Inspection



Once the [Re-Submit Batch] button is pressed the inspection will be processed using the same Process Id.

If errors are found a message will appear showing that the batch contains either invalid files or inspections.

Figure 21
Error message



If on re-submit the inspection load is successful a message will appear as below.

Figure 22
Success message



Examples of Error Correction

Invalid File - record count

The process execution log will show:
ERROR: record counts do not match terminator record.

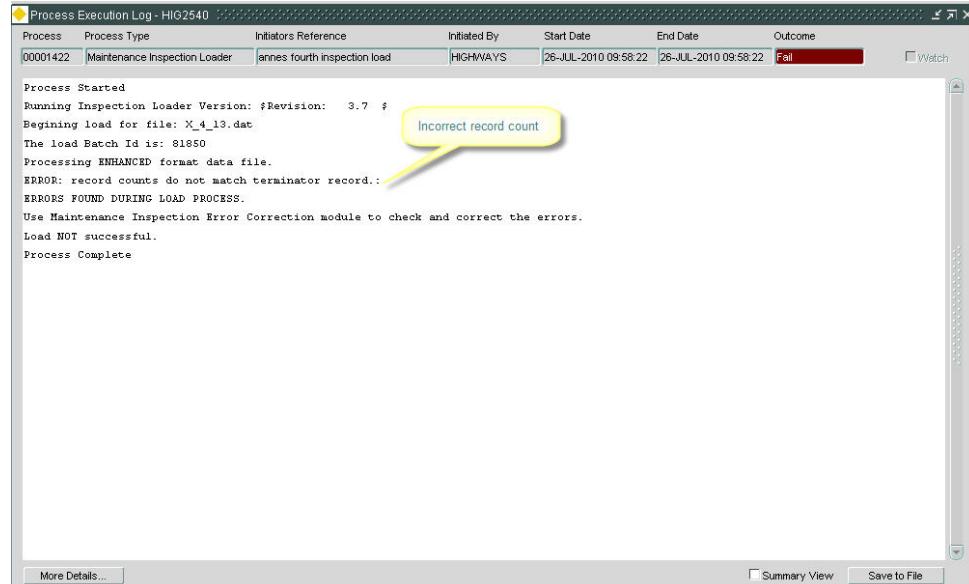


Figure 23
Process Execution Log

This error means that the 'X' record count is incorrect.

Select the [**More Details...**] tab which will open at the **Invalid Files** tab.
Scroll down the record types to the last record (X record).
The X record should be amended to show the correct count and then saved.
The file can now be re-submitted using the [**Re-Submit Batch**] button.

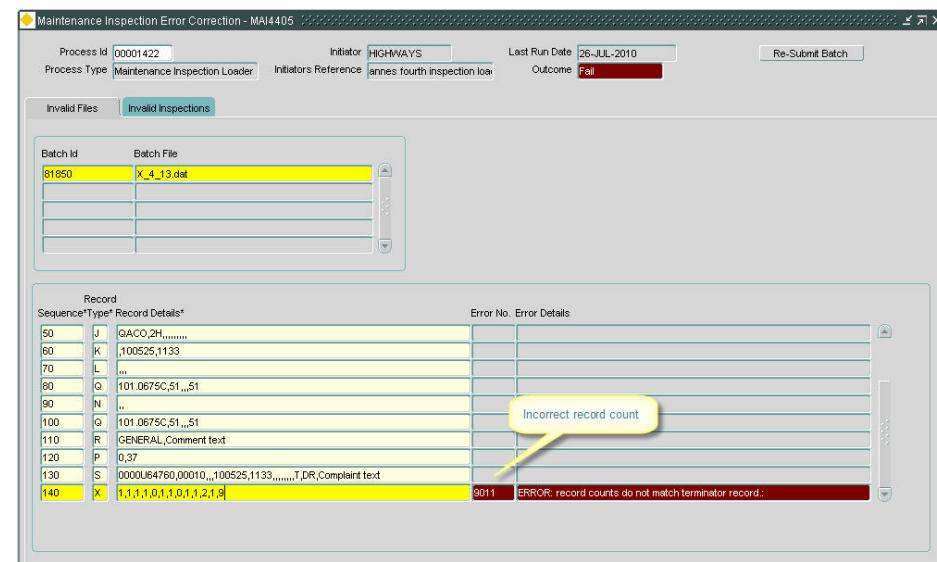


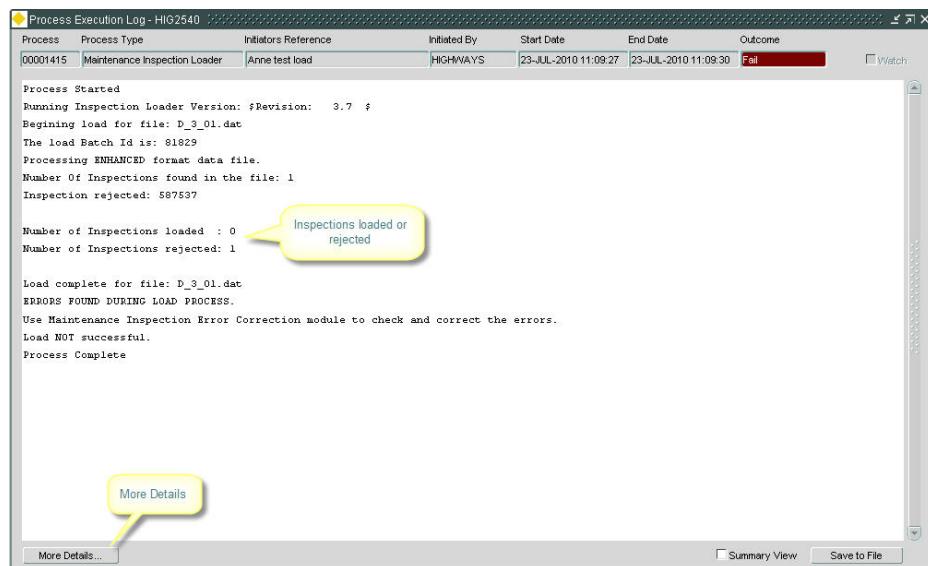
Figure 24
Maintenance Inspection Error Correction

Invalid Inspection:

The process execution log will show:
e.g. Inspection rejected: 587537

Number of Inspections loaded: 0
Number of Inspections rejected: 1

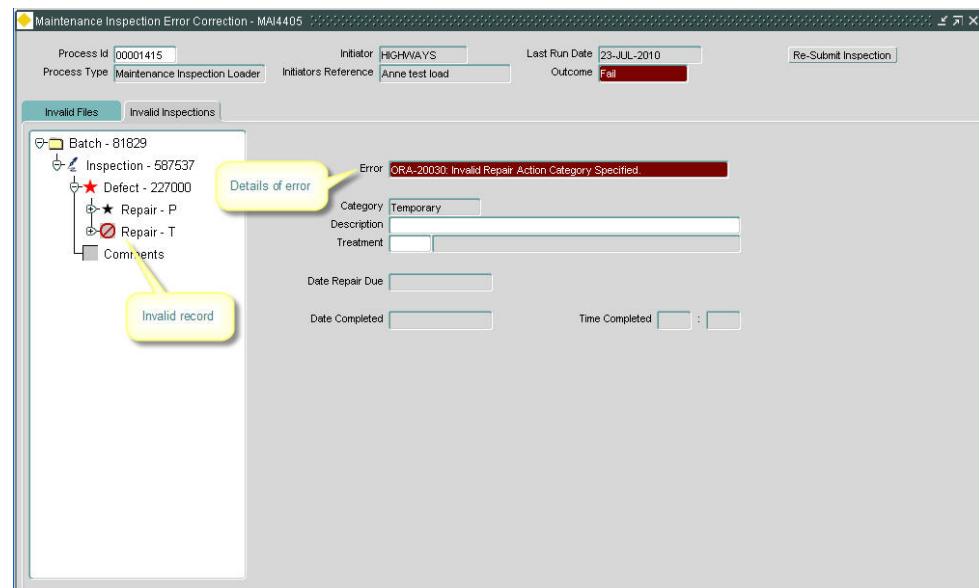
Figure 25
Process Execution Log



This error means that there is an error in an inspection contained within the batch.

Select the [More Details...] tab which will open at the Invalid Inspections tab.

Figure 26
Maintenance Inspection Error Correction



Click on the + sign against the batch file number to show the inspection data contained in the batch.

Click on the + sign against the inspection and then against the defect to show further details of defect, repair and boq items.

Invalid records will be identified with a red circle 

Highlight the invalid record to open up details of the error on the right hand side of the form.

An invalid repair type can be removed from the file with the [Delete Record] button on the toolbar. 

The record should then be saved and the file re-submitted using the [Re-Submit Batch] button.

Note: if the repair has an associated BOQ this record must first be deleted before the repair can be removed.

If the re-submit process is successful then a message will appear.

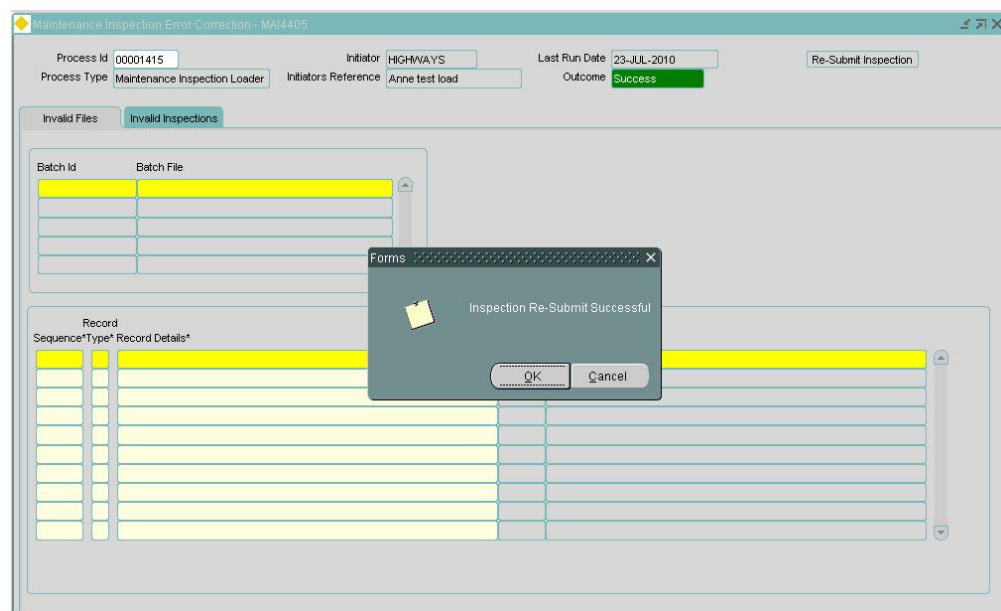


Figure 27
Success message

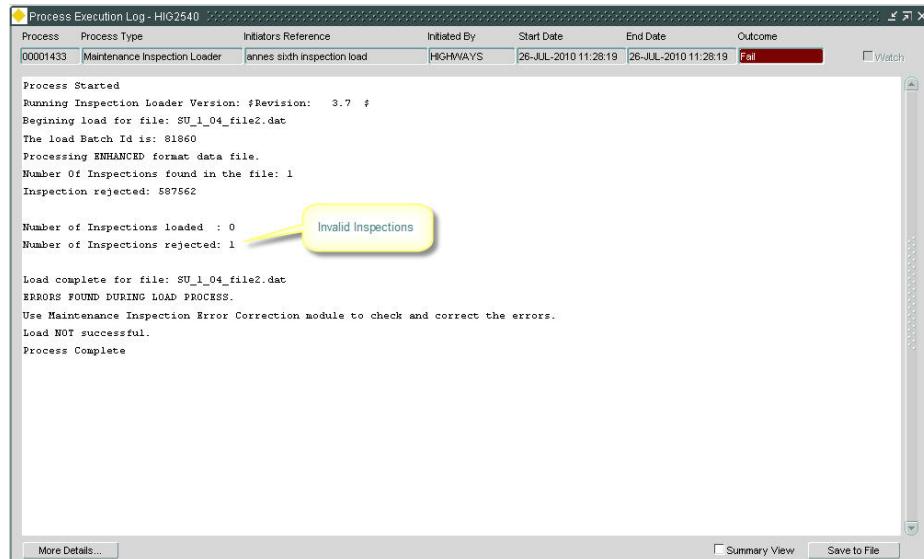
If further errors are encountered these should be corrected and the batch re-submitted until no errors remain.

Invalid Inspection:

The process execution log will show:
e.g. Inspection rejected: 587562

Number of Inspections loaded: 0
Number of Inspections rejected: 1

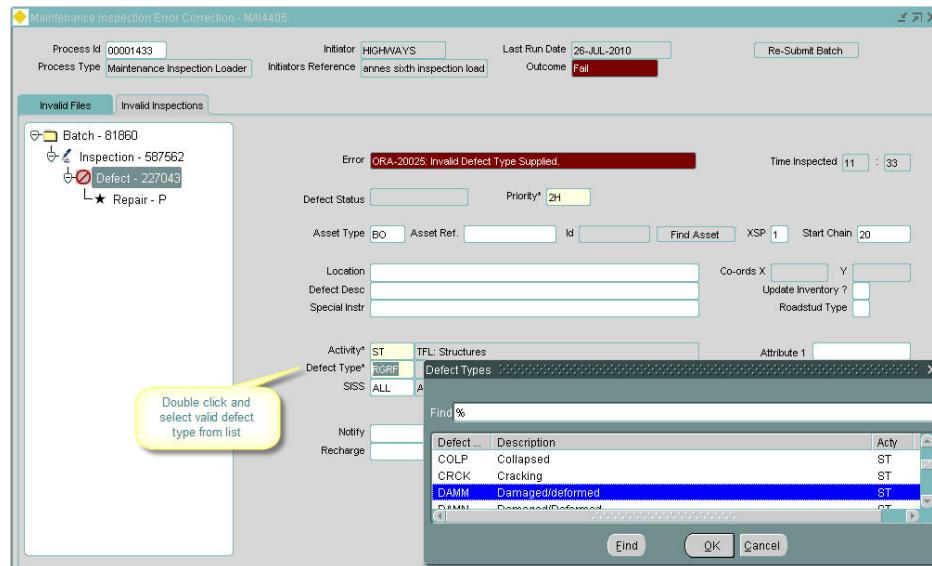
Figure 28
Process Execution Log



This error means that there is an error in an inspection contained within the batch.

Select the [More Details...] tab which will open at the **Invalid Inspections** tab.

Figure 29
Invalid Inspections tab



Click on the + sign against the batch file number to show the inspection data contained in the batch.

Click on the + sign against the inspection and then against the defect to show further details of defect, repair and boq items.

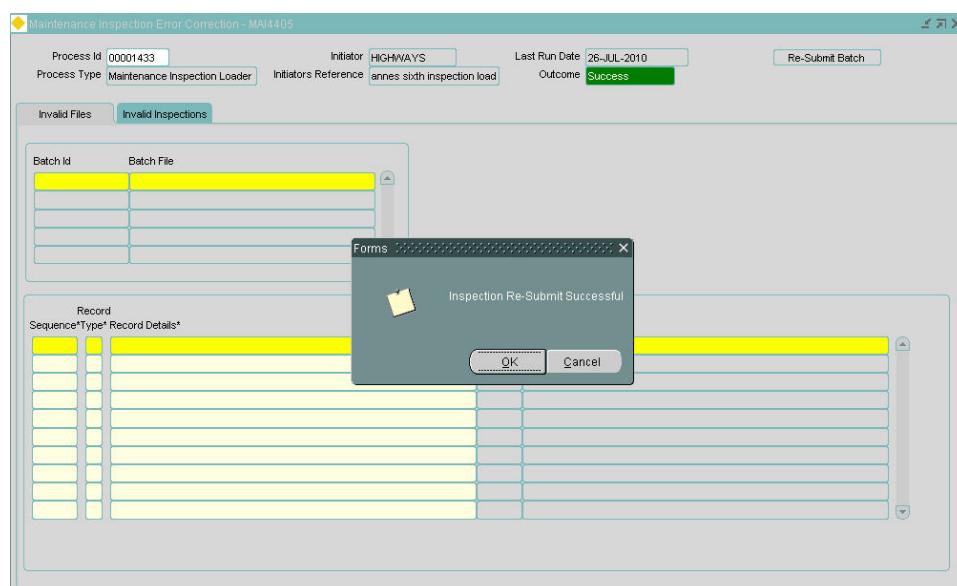
Invalid records will be identified with a red circle 

Highlight the invalid record to open up details of the error on the right hand side of the form.

For an invalid defect type, double click in the 'Defect Type' field and select a valid type from the list of values.

The record should then be saved and the file re-submitted using the [Re-Submit Batch] button.

Figure 30
Success message



If further errors are encountered these should be corrected and the batch re-submitted until no errors remain.

Load Inspection Data – File Format

The following describes the data file format for loading inspection data into Maintenance Manager from exor's data collection software (datacapture and MapCapture).

Introduction

The following fields will describe each record type.

Field

This column gives a descriptive name of the field.

DataType

This column may have the following values, which describes the allowable characters for the field.

Value	Description
Integer	Integer Number
Number	Number, decimal places
Alphanumeric	All Characters
Decimal Number	Number with decimal places

Max Size

This is the maximum size for this column.

M (mandatory)

If ticked this column is mandatory.

Description

This column will contain some meaningful text relating to the Field.

Record Types

All records must be enclosed by double quotes.
 All Alphanumeric fields, with the exception of the Record Type, may also be optionally enclosed by double quotes (ASCII 34).
 Items within the string are separated by commas.

'1' - Data File Information

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "1"
Data Version	Alphanumeric	10	✓	Version Number "1.8"
Software Version	Alphanumeric	10		Software Version Number
File Type	Alphanumeric	4	✓	May contain one of the following values: "RMMS" – Safety or Detailed Inspection "ENHN" – Defect Survey (with optional BOQS) "ASST" – Asset based survey
Description	Alphanumeric	240		Any useful description for the file

Example:

"1,1.8,4.1.122,ENHN,Inspection File 1"

'G' – Inspection Details (Beginning of Inspection Block)

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "G"
rse_he_id (ne_id)	Integer	9	✓	Exor internal Id of the section
Link	Alphanumeric	10	✓	Agency/Link Code
Section	Alphanumeric	3	✓	Section number
First Inspector	Alphanumeric	3	✓	The Inspectors initials (as stored within the exor database)
Inspection Date	Alphanumeric	YYMMDD	✓	Date of inspection e.g.100129
Inspection Time	Alphanumeric	HHMM	✓	Time of the inspection e.g. 1503
Safety/Detailed	Alphanumeric	1	✓	D for Detailed or S for Safety
Initiation Type	Alphanumeric	3	✓	Any valid initiation type from the pedif file
Direction	Alphanumeric	1	✓	Inspection direction in relation to the section start node. 'Y' indicates reverse direction 'N' indicates forward direction
Second Inspector	Alphanumeric	3		The second Inspectors initials (as stored within the exor database).
Weather condition	Alphanumeric	4		Any valid weather condition from the pedif file e.g. FINE, FOG, RAIN, etc
Road Surface	Alphanumeric	4		Any valid weather condition from the pedif file e.g. DRY, WET, SNOW etc
Section Description	Alphanumeric	240		Section description

Example:

"G,,2300B62842,00010,LC,20040930,1408,D,NRM,N,,FINE,DRY,.Section Description."

'H' – Inspection Activities

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "H"
Activity 1	Alphanumeric	2	✓	Any valid Activity Code from the pedif file
Activity 2	Alphanumeric	2		Any valid Activity Code from the pedif file
Activity 3	Alphanumeric	2		Any valid Activity Code from the pedif file

Any number of activity mnemonics allowed in this record.

Example:-

"H,CW,FW,LP,MC,MH,SG"

'I' – Defect Location Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "I"
Defect Activity	Alphanumeric	2	✓	Defect activity code
XSP	Alphanumeric	1		Cross sectional position of the defect
Chainage	Integer	6		Chainage of the defect
Location	Alphanumeric	40		Textual description of the defects location
Time	Alphanumeric	HHMM	✓	Time the defect was observed e.g. 1503
Identity Code	Alphanumeric	8		Identity code of the asset (sign, traffic signal, etc)
Diagram Number	Alphanumeric	7		Diagram number of the asset (sign etc)
Asset Type	Alphanumeric	2		Asset type of the associated asset
Inventory Change Indicator	Alphanumeric	1		Any valid value from the Asset Modification domain (included in the pedif file)
Marshall Sub-Head Code	Alphanumeric	3		Standard Item Sub Section (SISS) code
Notifiable Organisation	Alphanumeric	10		Notifiable organisation code
Rechargeable	Alphanumeric	10		Rechargeable organisation code
Special Instructions	Alphanumeric	254		Text field for any special instructions relating to the defect
Description	Alphanumeric	240		Defect description text field

Example:

"I,CW,5,415,EAST END OF ACCESS TO EDISCUM GARTH,1411,,,,,,Special Instruction, Large Pot Hole"

'J' – Additional Defect Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "J"
Defect Type	Alphanumeric	4	✓	Defect type code
Priority	Alphanumeric	4	✓	Defect priority
Defect Category	Alphanumeric	4		Defect response category
Asset Id	Integer	10		External Id of the associated asset
Easting	Decimal Number	38 (incl decimal point)		X co ordinate of the defect
Northing	Decimal Number	38 (incl decimal point)		Y co ordinate of the defect
Attribute 1	Alphanumeric (dependent on the attribute)	Dependent on the column used by the attribute		Value for attribute 1 as defined against the defect type
Attribute 2	Alphanumeric (dependent on the attribute)	Dependent on the column used by the attribute		Value for attribute 2 as defined against the defect type
Attribute 3	Alphanumeric (dependent on the attribute)	Dependent on the column used by the attribute		Value for attribute 3 as defined against the defect type
Attribute 4	Alphanumeric (dependent on the attribute)	Dependent on the column used by the attribute		Value for attribute 4 as defined against the defect type
Road Stud Indicator	Alphanumeric	1		Road stud indicator 'M' – indicates Mandatory 'A' – indicates Advisory This field should be NULL if the defect is not associated with a road stud

Example:

"J,CPOT,1,,,12345,54321,28,570,,,,"

'D' – Defect Document Attachments

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "D"
Type	Alphanumeric	4		Document type code (if not supplied the value of Product Option DEFDOCTYPE will be used)
Title	Alphanumeric	60		Document title
Description	Alphanumeric	2000		Document description
Category	Alphanumeric	8		Document category code
Location	Alphanumeric	30		Document manager location name (if not supplied the value of Product Option DEFDOCLOCN will be used)
Filename	Alphanumeric	254	✓	Name of the file to be attached

Zero or more D records can be specified for each Defect specified in the file.

In order to associate documents with a given Defect the D records must be positioned directly after the relevant J record in the file.

Example:

"D,PHOT,Before Photo.,Pot Hole, before repair.,,DEFECT_PHOTO,def1001291501.jpg"

'K' – Immediate Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "K"
Repair Description	Alphanumeric	240		Description of the Immediate action taken or recommended
Date Repaired	Alphanumeric	YYMMDD	✓	Date the Immediate action was taken
Time Repaired	Alphanumeric	HHMM	✓	Time the Immediate action was taken e.g. 1504 (24 hour format)

Example:

"K,MARKED UP,20040930,1411"

'L' – Temporary Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "L"
Repair Description	Alphanumeric	240		Description of the Temporary action taken or recommended
Date Repaired	Alphanumeric	YYMMDD		Date the action was taken. NULL if the action was not carried out at the time of the inspection
Time Repaired	Alphanumeric	HHMM		Time the Immediate action was taken e.g. 1504 (24 hour format) NULL if the action was not carried out at the time of the inspection.
Treatment	Alphanumeric	4		Treatment code

Example:

"L,FILL POTHOLE,20041001,1600,PATG"

'M' – Permanent Category 1 Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "M"
Repair Description	Alphanumeric	240		Description of the permanent action taken or recommended
Date Repaired	Alphanumeric	YYMMDD		Date the action was taken. NULL if the action was not carried out at the time of the inspection
Time Repaired	Alphanumeric	HHMM		Time the Immediate action was taken e.g. 1504 (24 hour format) NULL if the action was not carried out at the time of the inspection.
Treatment	Alphanumeric	4		Treatment code

Example:

"M,PATCH AREA,,FTP"R"

'N' – Permanent Category 2 Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "N"
Repair Description	Alphanumeric	240		Description of the permanent action
Treatment	Alphanumeric	4		Treatment code
Sub Category	Integer			Not used in EID format files

Example:

"N,POTHOLE FORMING LANE 2/PRI,0001"

'Q' – BOQ Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "Q"
Item Code	Alphanumeric	10	✓	Item code
Dimension 1	Number	10,2 (99999999,99)	✓	First dimension of the item If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded
Dimension 2	Number	10,2 (99999999,99)		Second dimension of the item If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded
Dimension 2	Number	10,2 (99999999,99)		Third dimension of the item If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded
Quantity	Number	10,2 (99999999,99)	✓	Total quantity i.e. the product of the specified dimensions

Zero or more Q records (BOQs) can be specified for each Temporary or Permanent Action specified in the file (BOQs are not allowed on Immediate Actions).

In order to associate BOQs with a given Action the Q records must be positioned directly after the relevant Action record in the file.

Example:

```
"K,MARKED UP,20040930,1411"
"L,FILL POTHOLE,20041001,1600,PATG"
"Q,1011106,0.92,,0.92"
"Q,1008101,0.8,0.8,,0.64000000000000001"
"M,PATCH AREA,,,FTPR"
"Q,1008102,2.3,0.6,,1.38"
```

'R' – Comments

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "R"
Comment Class	Alphanumeric	8	✓	Document category
Comment Text	Alphanumeric	240	✓	The text to be recorded as the comment

Example:

```
"R,GENERAL,BACK STREET NOT INSPECTED"
```

'P' – End of Inspection Block

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "P"
Start Chainage	Integer	6	✓	Chainage at the start of the inspection
End Chainage	Integer	6	✓	Chainage at the end of the inspection. The value 999999 will be interpreted as the end of the section being inspected

For an RMMS safety survey the Start Chainage must be 0 and the End Chainage must be 999999

Example:
"P,0,999999"

'X' – End of File

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	✓	Must contain "X"
G	Integer	38	✓	Count of 'G' records in the file
H	Integer	38	✓	Count of 'H' records in the file
I	Integer	38	✓	Count of 'I' records in the file
J	Integer	38	✓	Count of 'J' records in the file
D	Integer	38	✓	Count of 'D' records in the file
K	Integer	38	✓	Count of 'K' records in the file
L	Integer	38	✓	Count of 'L' records in the file
M	Integer	38	✓	Count of 'M' records in the file
N	Integer	38	✓	Count of 'N' records in the file
P	Integer	38	✓	Count of 'P' records in the file
Q	Integer	38	✓	Count of 'Q' records in the file
R	Integer	38	✓	Count of 'R' records in the file
S	Integer	38	✓	Count of 'S' records in the file

Example:
"X,4,4,15,15,0,0,0,0,0,15,4,0,0,0"
The values can be zero padded e.g.
"X,0041,0041,0038,0038,0000,0000,0038,0000,0041,0000,0009,0000"