Admin & User Guide

Exceptions

December 2008

Trimble
Mobile Resource Management

AUG-Except-12Dec08US

December 2008

www.road.com

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Preface

System Requirements

Item	Description
Operating System	Microsoft Windows 2000, XP, Vista Microsoft Windows 2000 Professional, XP Professional
CPU	Pentium-class processor (500 MHz or faster recommended)
Memory	64 MB minimum (128 MB or more recommended)
Display	VGA or better display (1024x768 resolution recommended)
Browser	Internet Explorer: 5.5 and above. Note: • All pop-up blockers should be disabled when using Geo-Manager to prevent conflict with the MapView Control Panel • The Run ActiveX control option must be enabled
Plug-In	Autodesk MapGuide Viewer 5.0 plug-in (available on the @Road web site) for Internet Explorer
Internet Access	Minimum 56 Kbps (high speed access via DSL, cable or ISDN recommended)

1 Introduction

Trimble addresses the challenges of managing mobile workers with Trimble Exceptions, a comprehensive monitoring and reporting tool that helps efficiently manage daily mobile workforce operations and improve business productivity through event-based monitoring and timely alerts.

Exceptions are offered as a standard feature of the Trimble GeoManager$_{SM}$ *i*LM, Trimble GeoManager$_{SM}$ PE, Trimble Pathway$_{SM}$ *i*LM and Trimble Pathway$_{SM}$ PE as shown in the matrix below.

	GeoManager				Pathway			
	*i*LM		Pocket Edition		*i*LM		Pocket Edition	
	Real-Time	Standard	Real-Time	Standard	Real-Time	Standard	Real-Time	Standard
Speed	X	X	X	X		X		X
Idling	X	X				X		
Landmark		X		X		X		X
Landmark Proximity	X	X	X	X	X	X	X	X
Mobile Device Vicinity		X		X				
Zone	X	X	X	X				
Stop		X		X				
Stop Count		X		X				
Handset Usage			X	X			X	X
Low Battery	X*	X*	X	X			X	X
Off Hours Use*		X		X				
Mileage*		X		X				
Stop Duration*	X	X	X	X				
Message	X	X	X	X				
Form	X	X	X	X				
Switch Status	X	X						
Temp Status	X	X						
Vehicle Diagnostics	X	X						

*New to Exceptions 2.0

Exceptions give you the ability to define a normal range of parameters for events or activities, then capture any deviance from this range. The parameters and range settings vary by Exception type but most often include less than and/or greater than values, duration and time frame for monitoring.

Formats

Users can view exception data in several formats:

- **Exceptions Console** – Online PC based console that displays Exceptions in real-time or standard delivery, depending on the selected options Exception is configured.
- **Notifications**:
  - Real-Time – receive individual notifications, as Exceptions occur, in the form of a text message to the user's desktop (via email), console or mobile device.
  - Standard – receive a daily summary of notifications, sent automatically to the user's desktop, console or mobile device at scheduled times.
- **Reports**:
  - Detailed reports onscreen
  - Downloadable reports in the following formats:
    - Excel
    - Tab de-limited
    - Comma de-limited

Data Retention

Exception data is normally retained for 14 days for Pathway *i*LM or Pathway PE and 90 days for GeoManager *i*LM and GeoManager PE. You may choose to retain access to data for a longer period of time through the Extended Data Storage option. Offered at an additional fee, this option gives you access to data up to a year after the event occurred.

Note:

Please consult with your Trimble MRM Sales Manager if you are interested in extending the time your data is available to you for retrieval.

Optional Features (Additional Fee)

Some Exception types are companions to optional product features that require an additional fee for their use. You may add more features and options to your existing agreement at any time.

Note:

For information about how to add more features and options, please consult with your Trimble MRM Sales Manager.

Exception Types

Many types of Exceptions are available, depending on the Trimble MRM solution you have. The standard Exceptions are:

- **Forms** –triggered when a form field is sent from the mobile device and meets certain user specified parameters.
- **Handset Usage** – triggered when a hand-held mobile device has not accessed the Trimble MRM application by the time expected, or if there is mobile activity beyond expected work hours. The administrator specifies the time window during which mobile users should be logged in to the Trimble MRM application, as well as the notification parameters.
- **Idling** – occurs when a mobile device idles for more than a specified duration. Idling is measured when the ignition is "on" and the mobile device is not moving for more than 2 minutes.
- **Landmark** – triggered when a mobile device stops at user-defined landmarks. Trimble MRM runs a nightly process to identify Landmark Exceptions from the previous day.
- **Landmark Proximity** – triggered when a Mobile User arrives at or departs from a user-defined landmark and has been there for 1 minute plus device sampling rate. Landmark Proximity is monitored by the device and capable of real-time delivery notification.
- **Low Battery** – triggered when the vehicle battery level or hand-held mobile device battery level (for PE applications) falls to the point at which no location data may be transmitted. The administrator sets notification parameters.
- **Messaging** – triggered when a predefined message is delivered by the mobile device.
- **Mileage** – triggered when a mobile device exceeds a predefined number of miles within a day.
- **Mobile Device Vicinity** – monitors the occurrences of multiple mobile devices stopping within a defined distance from each other for a predefined period of time common to both or all vehicles.
- **Off Hours Use** – triggered when a mobile device registers vehicle movement outside designated working hours, which are defined by the administrator.
- **Speed** – triggered when a mobile device exceeds a speed and duration threshold.
- **Stop** – triggered when the total daily stop time at a landmark is greater than a predefined threshold.

- **Stop Count** – triggered when the total number of stops at a landmark is greater than a predefined threshold.
- **Stop Duration** – triggered when a mobile device at a landmark or any location exceeds a stop time longer than the predefined threshold, within a defined workday.
- **Switch Status** – allows customers to define when a Switch Status event should trigger a notification, such as trailer door open or close.
- **Temp Status** – allows customers to set a temperature and duration value to monitor the temperature of a mobile asset's cargo.
- **Zone** – allows the user to monitor the arrival at and/or departure of a mobile device from a specified zone. A "zone" can be a zip code, city, county or state.
- **Vehicle Diagnostics** – monitors the vehicle systems and triggers an alert when any mechanical issue occurs.

The following Exceptions are optional, for an additional fee, with GeoManager *i*LM and GeoManager PE.

- Forms
- Messaging
- Mobile Device Vicinity

The following Exceptions are optional, for an additional fee, with GeoManager *i*LM only.

- Temp Status

2 Creating Exception Parameters

Before you can define the parameters for any Exception, you must log into GeoManager.

To log into GeoManager *i*LM, GeoManager PE, Pathway *i*LM, or Pathway PE:

To log into GeoManager:

1. Enter the address http://www.trimble.com/mobile_resource_management in the Universal Resource Locator (URL) The Trimble home page, shown in Figure 2–1, appears.

Figure 2–1 Trimble MRM Home Page

2. Select the desired Trimble MRM solution from the **Customer Login** drop-down menu. The **Login** screen, shown in Figure 2–2, appears.

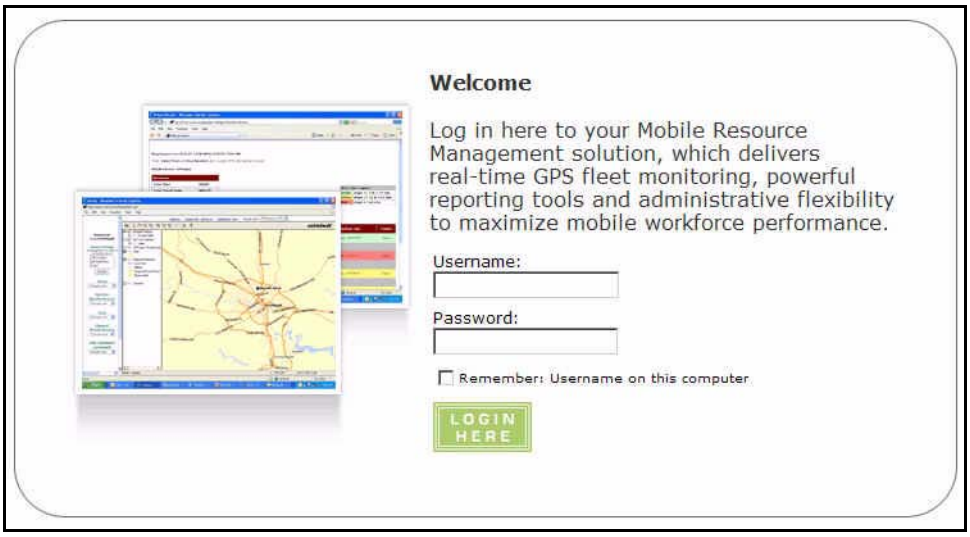


Figure 2–2: The Trimble Login Screen

3. At the prompt, enter the **Username** and **Password**.

4. Click the **Login Here** button or press **Enter**. The **GeoManager** home page, shown in Figure 2–3, appears or the home page for Pathway, shown in Figure 2–4, appears.

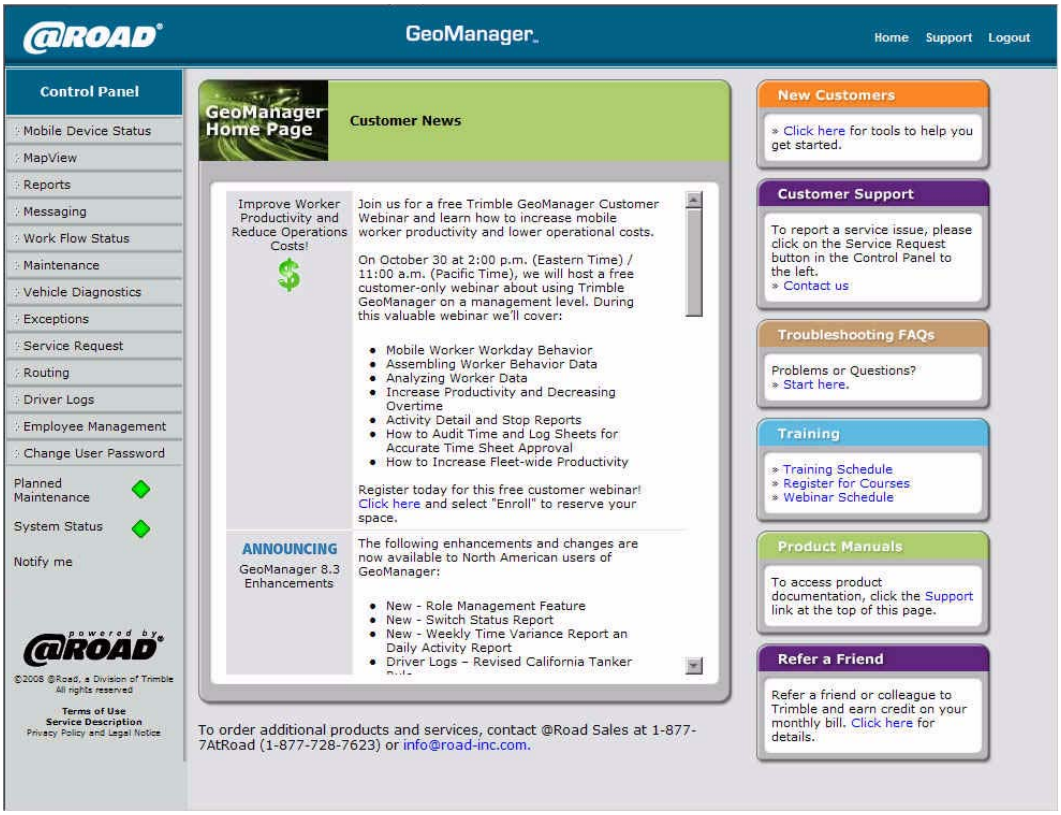


Figure 2–3GeoManager *i*LM/GeoManager PE Home Page

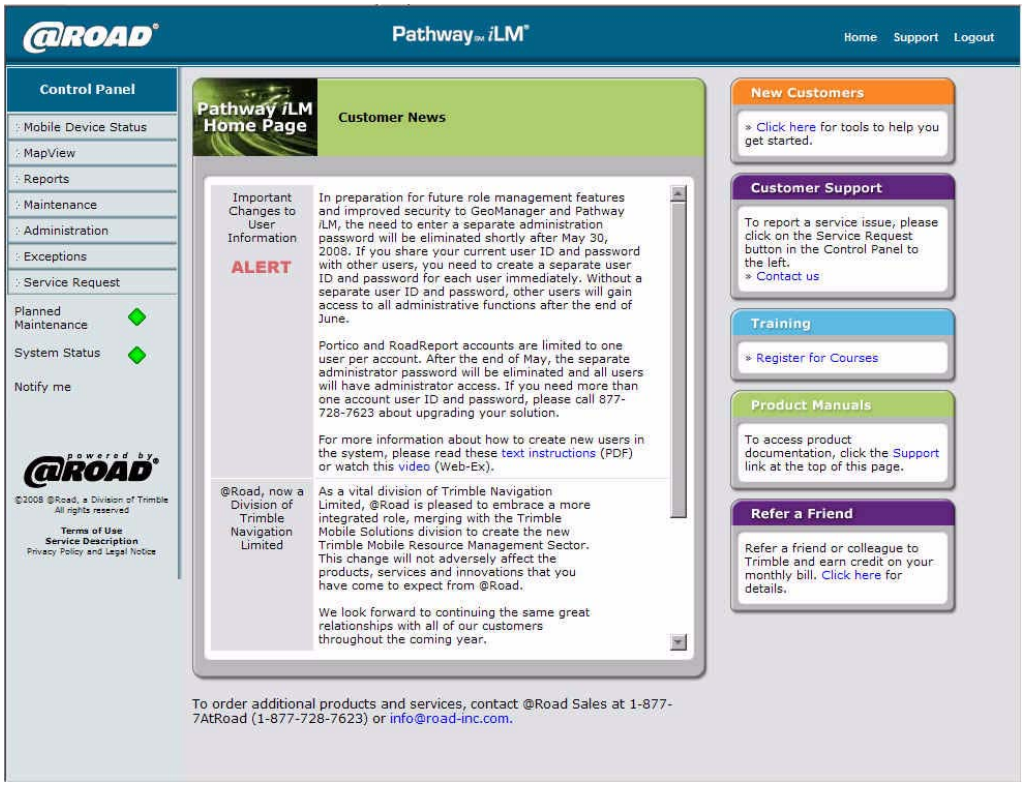


Figure 2–4 GeoManager Pathway *i*LM

From the **Administration** screen you can configure, edit, maintain, enable and create exceptions for activities and their functions.

If the **WLAN** feature is enabled in the **Administration Tool Client** account, the **WLAN Security Administration** link in the administration home page will be enabled. Click the **WLAN Security Administration** link to configure access point parameters.

Note:

You will need an Administrator Password to access the Administration Control Panel. If you do not have an Administrator Password, contact Trimble MRM Customer Satisfaction at mrm-support@trimble.com.

To access Administration:

1. Click the Administration link on the navigation Control Panel. The main Administration screen, shown in Figure 9–4, appears.

Figure 2–5 Administration Options

2. Click **Exception Administration**. The Exceptions Administration screen, shown in Figure 2–6, appears.

Figure 2–6 Exception Administration Options

The following options appear after you click Exception Administration:

- Exception Management
- Batch Exception Assignment
- View Exception Parameter Reports

Exception Management

Exception Management displays all current Exceptions you track. You can create, modify, enable, disable and delete exceptions based on business need. The first time you enter Exceptions the list will be empty until exceptions have been assigned.

1. Click **Exception Management** from the **Exceptions** screen. The **Exception Administration** screen, shown in Figure 2–7, appears.

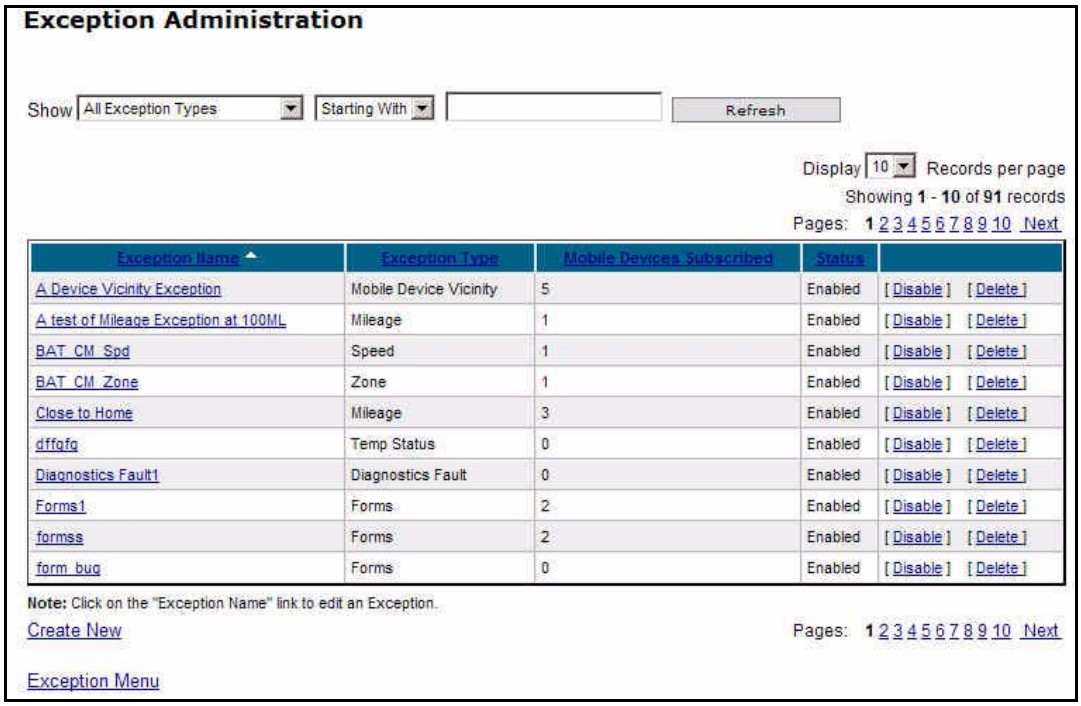


Figure 2–7: Exception Administration Screen

- Click the **Show** drop down menu, shown in Figure 2–8, to display exceptions by type.

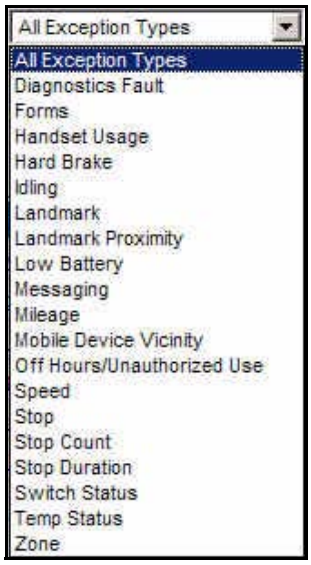


Figure 2–8: Show Drop Down Menu

The following exception types are appear:

- Diagnostics Fault
- Forms
- Handset Usage
- Hard Brake
- Idling
- Landmark
- Landmark Proximity
- Low Battery
- Messaging
- Mileage
- Mobile Device Vicinity
- Off Hours/Unauthorized Use
- Speed
- Stop
- Stop Count
- Stop Duration
- Switch Status
- Temp Status
- Zone

2. Click the **Starting With**, **Ending With**, **Containing** drop down menu to sort Exceptions accordingly.
3. Click **Refresh** to display only the exceptions you wish to view.

The screen lists 10, 15, or 20 devices at a time. If you manage more than 15 devices, the screen also shows the number of pages. Select the appropriate page number to move to the desired page.

Click **Create New**, the **Setting up an Exception - Select the Exception Type** screen, shown in Figure 2–9, displays. Here you can select the Exception type you would like to set up.

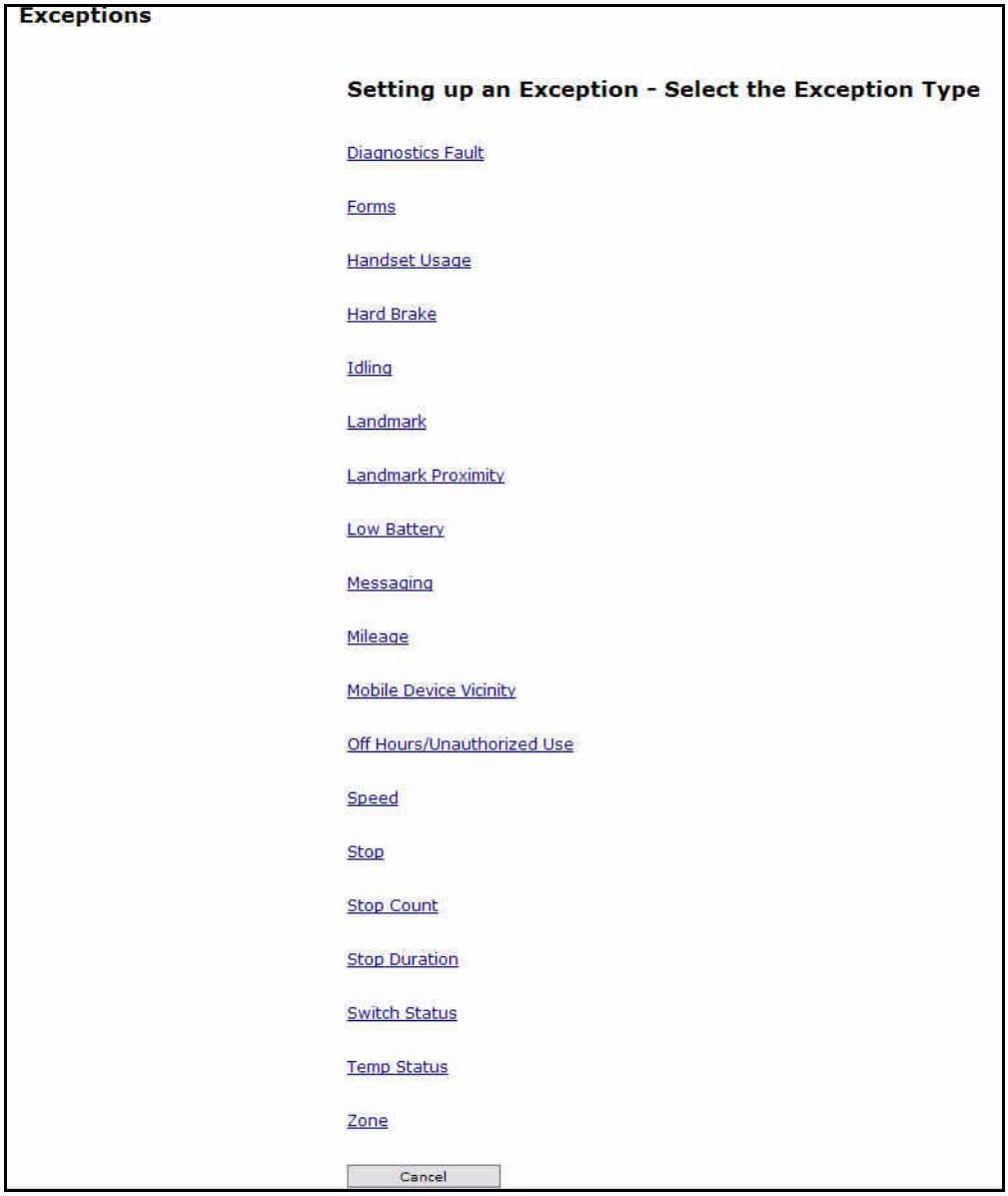


Figure 2–9: Setting Up the Exception - Select the Exception Type

Click **Exception Menu** to return to the Exceptions screen, shown in Figure 2–6.

You are now ready to set the parameters for any Exceptions you would like to track. The following sections complete the creation procedure for each Exception type.

After clicking the desired Exception, an Exceptions wizard opens to guide you through a series of screens used to create each set of Exceptions parameters.

Diagnostics Fault

Diagnostics Fault Exceptions are triggered when a mobile device generates a fault code.

Diagnostics Fault is currently available for users with Vehicle Diagnostics enabled who are using *i*LM 4500 series hardware.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Diagnostics Fault**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Diagnostics Fault, shown in Figure 2–10 appears.

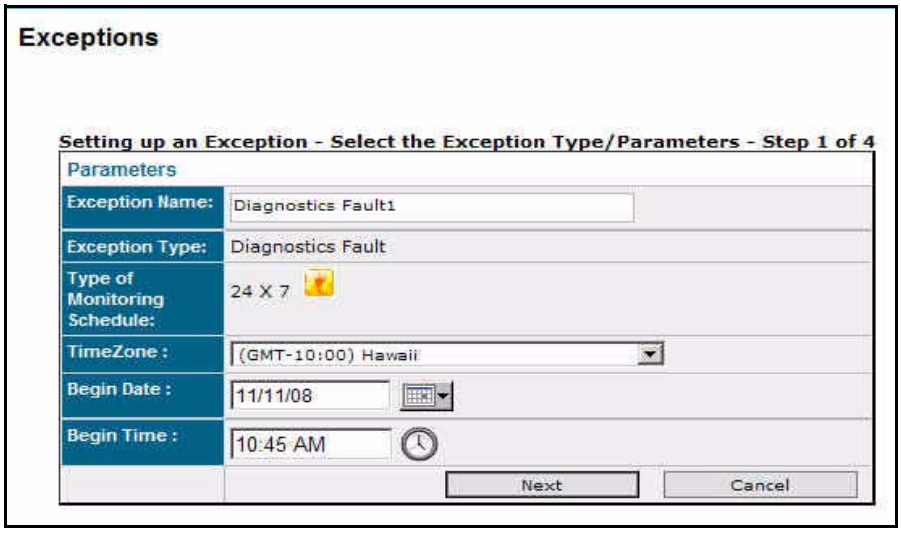


Figure 2–10: Setting Up the Exception - Select the Exception/Parameters Screen for Diagnostics Fault Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select a time zone from the **TimeZone** drop down menu.
4. Click the **Begin Date** calendar icon to select a begin date to start monitoring the selected mobile device.
5. Click the **Begin Time** clock icon to select a begin time to start monitoring the selected mobile device.
6. Click **OK** to accept the selected begin time.
   - Click **Cancel** to exit without making changes.
   - Click **Clear** to remove an existing time from the **Begin Time** field.
7. Click **Next**. The **Setting up an Exception - Specify the Exception Notification Options – Step 3 of 4** screen for Diagnostics Fault, shown in Figure 2–11 appears.
   - Click **Cancel** to return to the Exception Administration screen, shown in Figure 2–7, without saving changes.

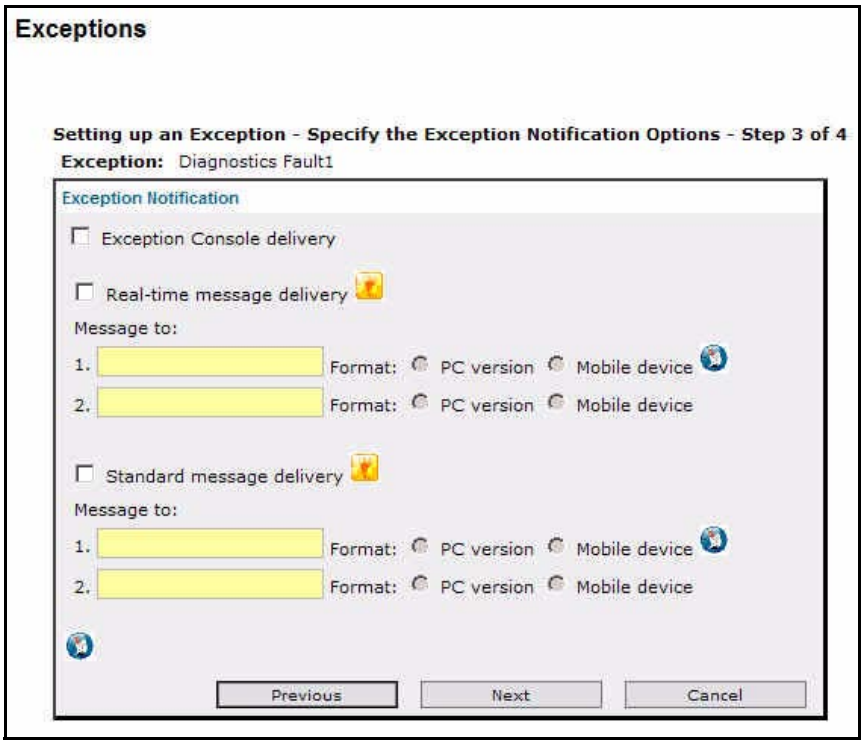


Figure 2–11: Setting Up the Exception - Specify the Exception Notification Options Screen for Diagnostics Fault Step 3 of 4

Field	Description
Exception Console Delivery	Sends a notification of the Diagnostics Fault Exception to the online Exceptions Console. For more information about the Exceptions Console, see the Exceptions Notification Console section.
Real-Time Message Delivery	Notifies selected personnel that a Diagnostics Fault Exception has occurred in real-time. Note:Mouse over the **Tip** or **Note** icon to view addition information.
Standard Message Delivery	Notifies selected personnel of Diagnostics Fault Exceptions that occurred the previous day. All Exceptions are cataloged and sent in a single message. Note:Mouse over the **Tip** or **Note** icon to view addition information.
Note Icon - Directions	Mouse over the **Note** icon to view step by step instructions for filling out the Exception parameters.

Note:
All exception violations will be recorded and stored for reporting purposes

8. Select how you want Notification of the Speed Exceptions sent to you. You may select more than one delivery option.
   - Check the **Exception Console delivery** check box if you want console notification.
   - Check the **Real-Time Message delivery** option if you want immediate notification of Speed Exceptions.
     a. Enter up to two email or mobile device addresses into the **1.** and **2.** fields.
     b. Select the radio button for the format of the device address: **PC forma**t or **mobile device**.

        To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).
   - Check the **Standard Message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.
     a. Enter up to two email or mobile device addresses, one for each of the 1. and 2. fields.
     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

        To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).
9. Click **Next** to advance to the Specify mobile devices to Monitor screen, shown in Figure 12.
   - Click **Previous** to return to the last screen.
   - Click **Cancel** to return to the Current Exceptions screen.

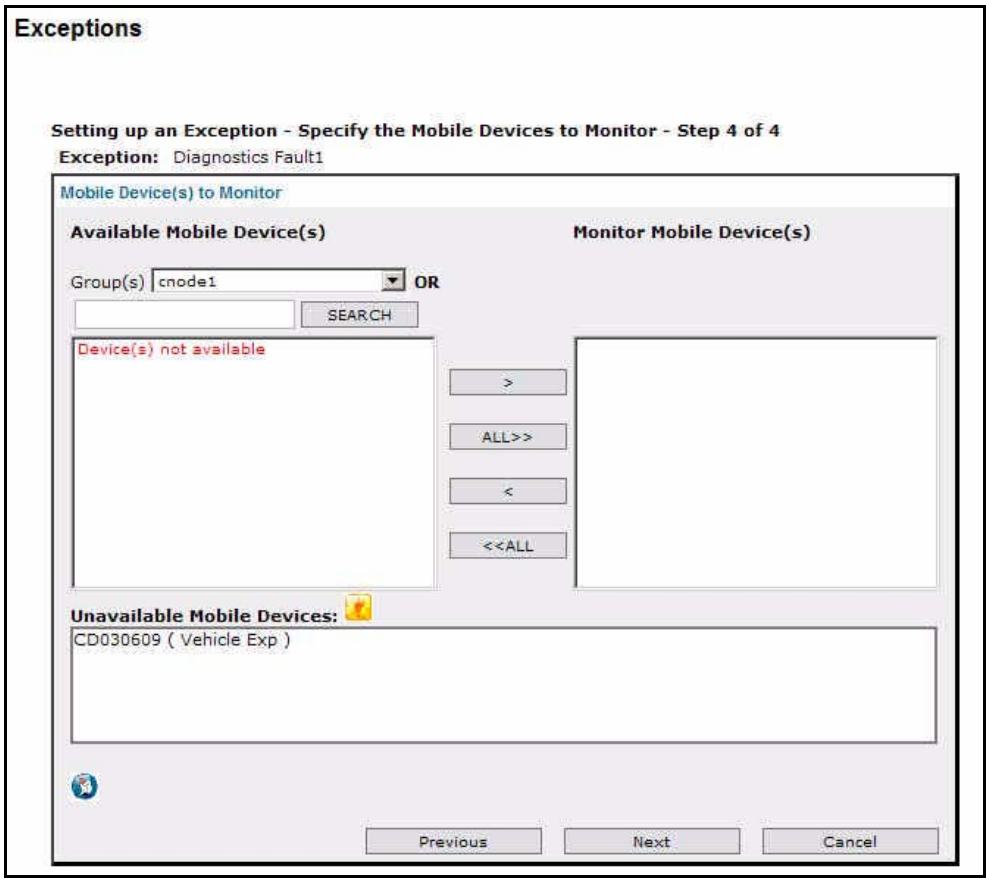


Figure 2–12: Setting Up the Exception - Specify the Mobile Devices to Monitor Screen for Diagnostics Fault Step 4 of 4

Field	Description
Available Vehicles	Shows a list of all the vehicles or hand-held devices that are available for tracking Diagnostics Fault Exceptions.
Monitor Vehicles	Shows a list of all vehicles or hand-held devices selected for Diagnostics Fault Exception tracking.
Group	If vehicles or hand-held devices have been grouped into categories, the categories are listed here. Defaults to All Vehicles.
Search	Allows the administrator to enter a keyword or name for faster location of a specific mobile worker's vehicle or hand-held device.
Unavailable Mobile Devices	Shows a list of devices that have already been assigned to a different Diagnostics Fault Exception. Note:Mouse over the **Tip** icon to view addition information.
Note Icon-Directions	Mouse over the **Note** icon to view step by step instructions for filling out the Exception parameters.

10. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the Group drop-menu. For more information about Groups, see the *GeoManager User Admin Guide*.
    - If you want to search for a specific device, enter the search criteria into the Search field, then click Search. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

11. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the box on the right indicating they have been selected.

Note:

Devices can only be part of one Speed Exception. Unavailable devices that are part of a different Speed Exception are shown in the Unavailable mobile devices field along with the name of the Speed Exception to which they belong.

12. Click **Next** to advance to the **Confirmation** screen, shown in Figure 13.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Current Exceptions** screen.

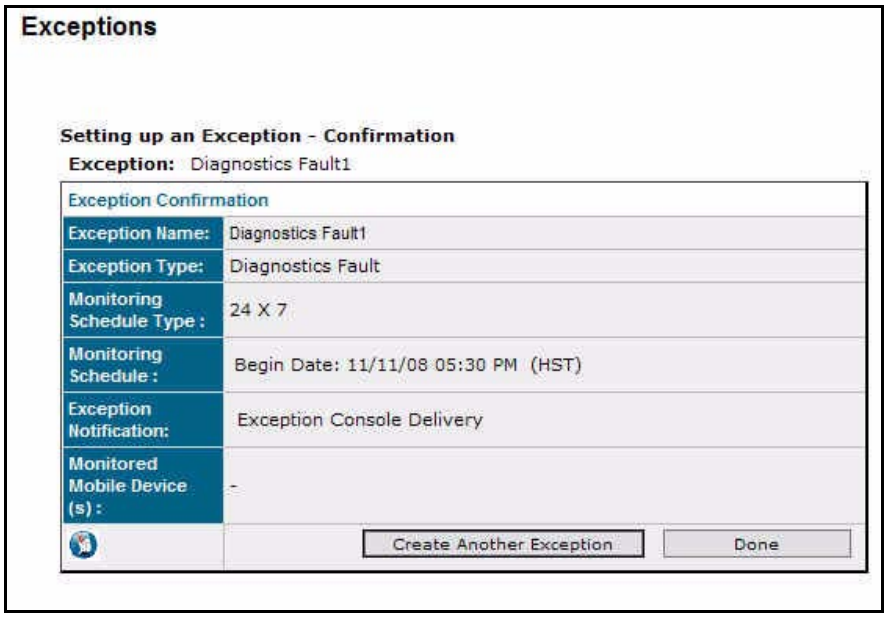


Figure 2–13: Setting Up the Exception - Confirmation

13. Confirm the Speed Exception parameters that you have selected.

14. Click **Done** if you are finished setting up Exceptions. The **Exception Administration** screen appears.

    Click **Create Another Exception** if you want to create other Exceptions. The **Setting up an Exception - Select the Exception Type** screen appears.

Forms

Forms Exception works in conjunction with the Messaging option. If the Forms feature of Messaging is being used, exceptions for form field data outside an expected parameter can be monitored for variance.

This would be useful, for example, for flagging unusually large quantities associated with a sales order.

Forms Exceptions are available for GeoManager *i*LM and GeoManager PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Forms**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Forms, shown in Figure 2–14 appears.

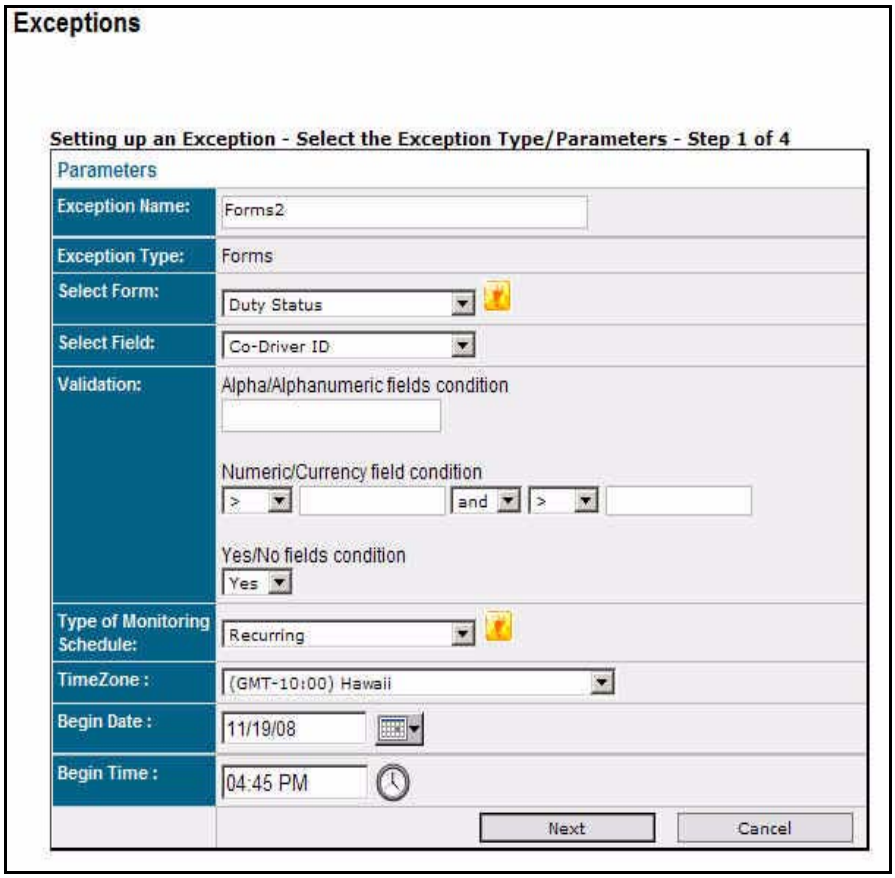


Figure 2–14: Setting Up the Exception - Select the Exception/Parameters Screen for Forms Step 1 of 4 (Recurring)

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Select Form	A list of your previously created forms. For more information about creating Forms, see the *GeoManager Admin User Guide*.
Select Field	Combination of a drop-menu of fields from the previously created form and alpha/numeric conditions that would be contained in the field. For more information about pre-defined form information, see the *GeoManager User Admin Guide*.

Field	Description
Validation	Allows a second level of validation to ensure the correct form field flags an exception. Combination of drop-menus and text fields for validating data from form fields. For more information about pre-defined form information, see the *GeoManager User Admin Guide*.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring forms for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the pre-typed message from the **Select Form** drop-menu.
4. Select the pre-typed message from the **Select Field** drop-menu.
5. If desired, enter the exact words that will be used to validate the message in the **Validation** field.
6. Select the schedule type you would like to establish for monitoring Forms Exceptions from the **Type of Monitoring Schedule** field:
   - 24 X 7
   - Recurring

   For predefined Recurring Schedule options, shown in Figure 2–15:
   a. Click **NEXT** to open the **Specify the Monitoring Schedule** screen.

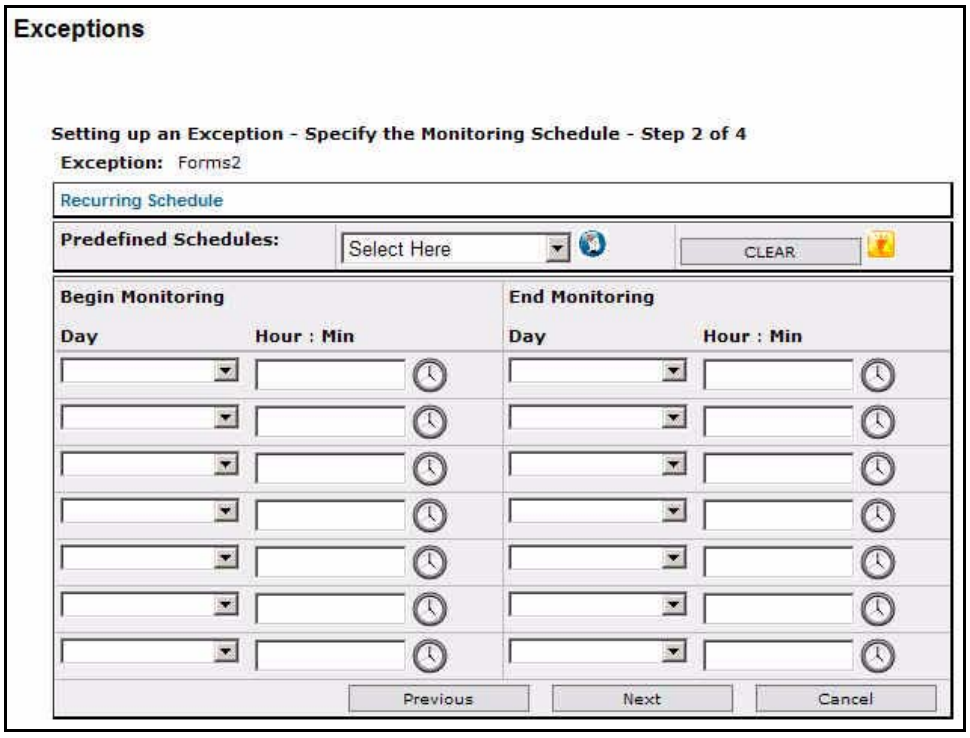


Figure 2–15: Setting Up the Exception - Select the Exception - Specify the Monitoring Schedule Step 2 of 4

Field	Description
Predefined Schedules	For your convenience, Trimble MRM has predefined the four most commonly used schedules: • Week Days (8 a.m. - 5 p.m. Mon-Fri) • Week Nights (5 p.m. - 8 a.m. Mon-Fri) • Weekends (5 p.m. Fri - 8 a.m. Mon) • Nights and Weekends (Includes week nights and weekends) Note:Mouse over the **Note** icon to display step by step instructions for filling out the Exception parameters.

Field	Description
Begin Monitoring	The day, hour and minute you want GeoManager to begin recording Speed Exceptions. Days of the week cannot be repeated or overlapped. Minutes can be selected in 15 minute increments. If a predefined schedule is selected, these fields are auto-filled with information.
End Monitoring	The day, hour and minute you want GeoManager to stop recording Speed Exceptions. Days of the week cannot be repeated or overlapped. Minutes can be selected in 15 minute increments. If a predefined schedule is selected, these fields are auto-filled with information.

To customize **Recurring Schedule** options, shown in Figure 2–15:

b. Select one of the four options from the **Predefined Schedules** field:

- Week Days
- Week Nights
- Weekends
- Nights and Weekends

c. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

d. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

e. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

f. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

g. To clear the selected options and re-enter information, click **Clear**.

h. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

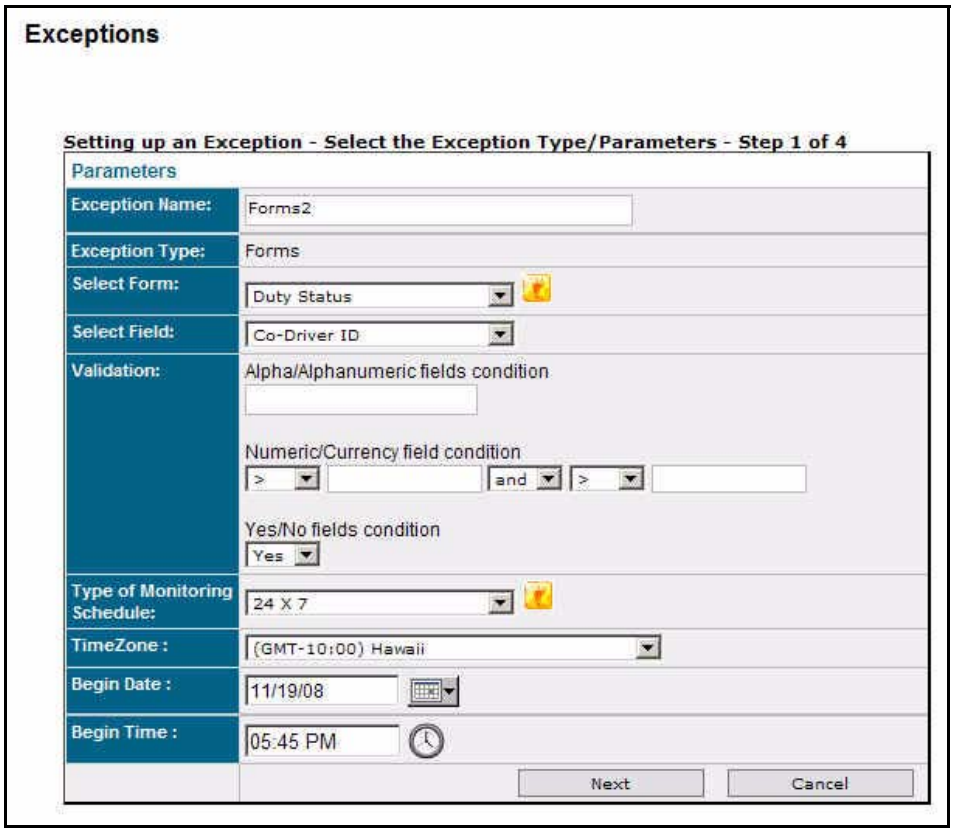


Figure 2–16: Setting Up the Exception - Select the Exception - Select the Exception Type/ Parameters - Step 1 of 4 (24 X 7)

a. Select the correct time zone from the **Time Zone** field.

   The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17

   Click **Cancel** to return to the Exception Administration screen.

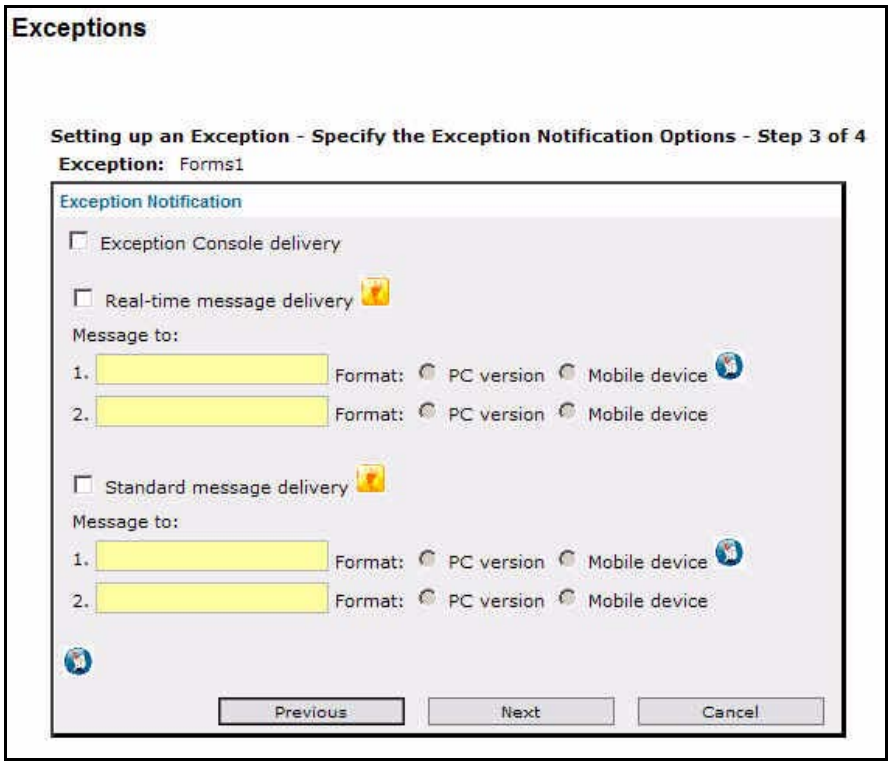


Figure 2–17: Setting Up the Exception - Specify the Exception Notification Options Step 3 of 4

7. Select how you want Notification of the Forms Exceptions sent to you. You may select more than one delivery option.

   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Real-Time message delivery** option if you want immediate notification.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

   - Check the **Standard message delivery** option if you want a list of all the Forms Exceptions that occurred the previous day.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

8. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

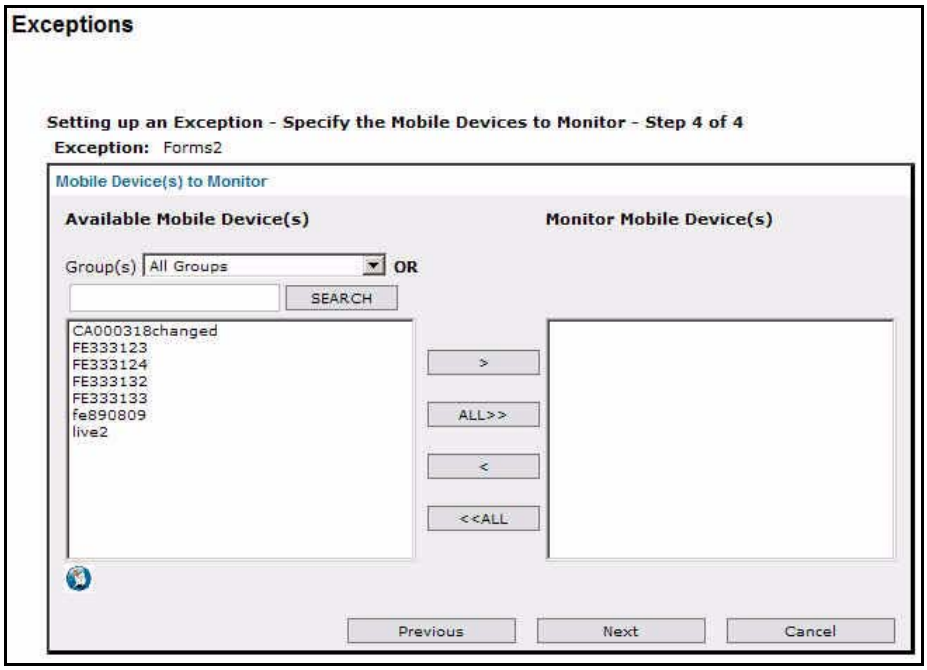


Figure 2–18: Setting Up the Exception - Specify the Mobile Devices to Monitor Step 4 of 4

9. Select vehicles or hand-held devices to monitor:

   - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
   - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
   - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

10. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

11. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–19.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

Figure 2–19: Setting Up the Exception - Confirmation

12. Confirm the Forms Exception parameters that you selected.
13. Click **Done** if you are finished setting up Exceptions. The **Exception Administration** screen appears.

    Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Handset Usage

Handset Usage Exceptions occur when a mobile device has not accessed your Trimble MRM application by an expected time or if there is activity outside of set work hours. These Exceptions can help a company determine when hand-held devices are being used outside of company time or turned off during work hours.

Handset Usage is available for GeoManager *i*LM, GeoManager PE and Pathway *i*LM.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Handset Usage**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Handset Usage, shown in Figure 2–20 appears.

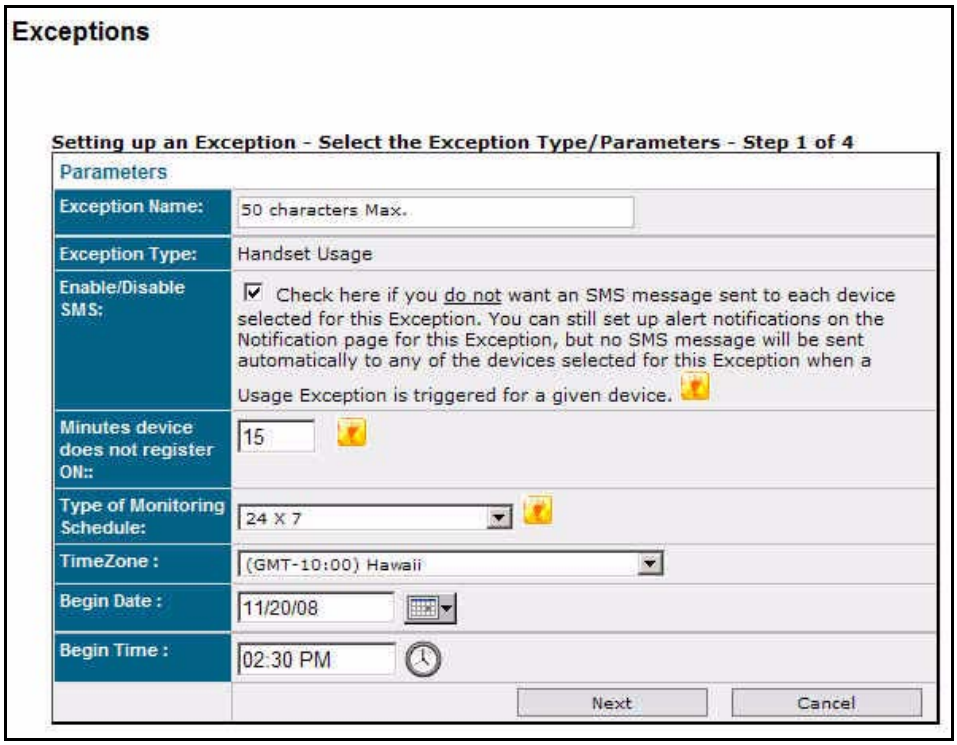


Figure 2–20: Setting Up the Exception - Select the Exception - Select the Exception Type/ Parameters for Handset Usage - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Enable/Disable SMS:	Check this box if you do not want an SMS message sent to each device selected for this Exception. You can still set up alert notifications on the Notification page for this Exception, but no SMS message will be sent automatically to any of the devices selected for this Exception when a Usage Exception is triggered for a given device. --- Note: A Handset Usage Exception will be sent as an email/SMS message to all the selected devices if the Trimble phone application is detected to be off for more than the time specified below, during defined monitoring hours. If no phone number is entered for any of the devices selected for the Usage Exception, then no SMS notices will be sent to the handset. ---

Field	Description
Minutes Device does not Register ON:	If the Trimble application is not detected as running within this number of minutes (added to the update frequency that your service transmits to the server), an alert will be sent. This must be greater than 15 minutes. Note:Mouse over the **Tip** icon to view addition information.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring handset usage for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the **SMS Message** check box if you **do not** want an SMS message sent to each device selected for this Exception.
4. Enter the maximum number of minutes that the GeoManager application is not detected as running before an Exception occurs.
5. Select the schedule type you would like to establish for monitoring Handset Usage Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
6. Click **NEXT** to open the **Schedule Options** screen.
7. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:
      - Week Days

- Week Nights
- Weekends
- Nights and Weekends

b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17

Click **Cancel** to return to the Exception Administration screen.

8. Select how you want Notification of the Handset Usage Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Handset Usage Exceptions that occurred the previous day.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

9. Select the radio button for the format of the device address: **PC format** or **mobile device**.

   To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

10. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

11. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

12. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

13. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

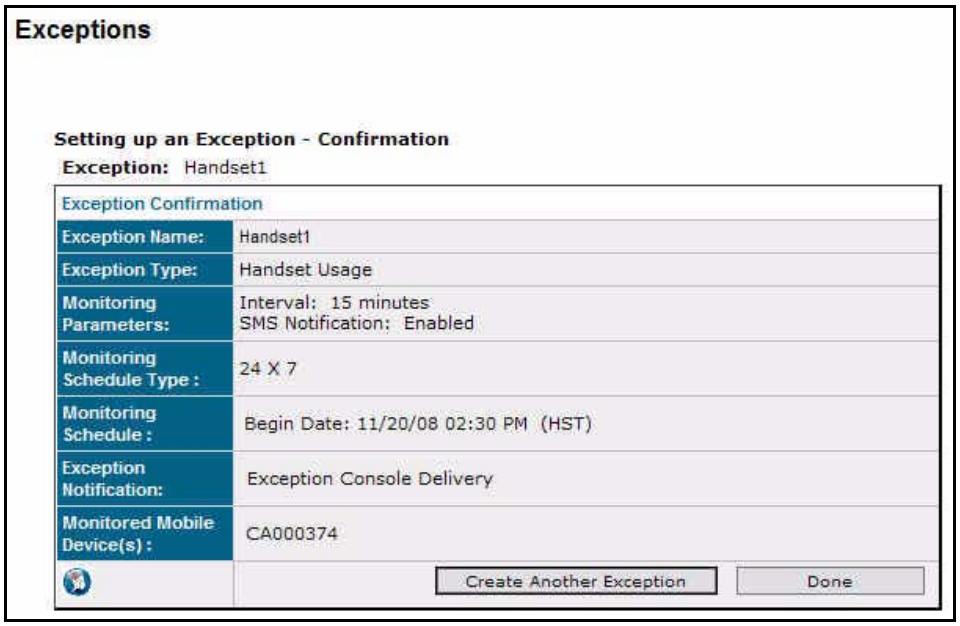


Figure 2–21 Confirmation Screen for Handset Usage

14. Confirm the Handset Usage Exception parameters that you selected.
15. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

    Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Idling

Idling Exceptions are triggered when the engine idles longer than a specified period of time. Idle time is defined when the ignition is "on" but the vehicle is stopped. This allows better management of productive time as well as for cost savings through fuel and maintenance savings.

Idling is available for GeoManager *i*LM and Pathway *i*LM.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Idling**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Idling, shown in Figure 2–22, appears.

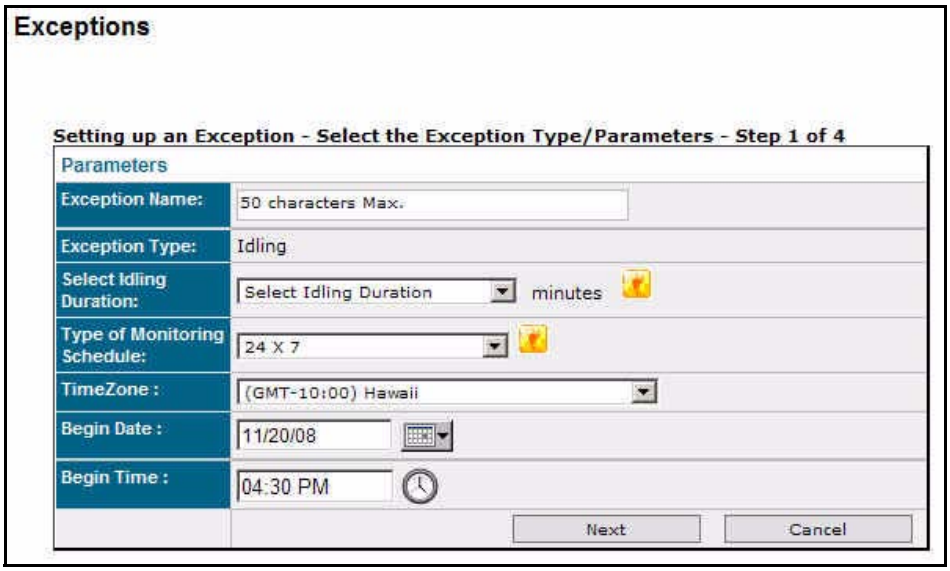


Figure 2–22 Select the Exception Type/Parameters for Idling - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Select Idling Duration	The continuous amount of time before Idling is exceeded and an Exception is triggered. This can be anywhere between 5 and 120 minutes in duration.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring idling for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.

3. Select the number of minutes a vehicle must idle before an alert is created from the **Select Idling Duration** field.
4. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
5. Click **NEXT** to open the **Schedule Options** screen.
6. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:
      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

      Click **Previous** to return to the last screen.

      Click **Cancel** to return to the Exception Administration screen.

   For **24 X 7 Schedule** options, shown in Figure 2–16:

   a. Select the correct time zone from the **Time Zone** field.

      The system will default to PDT if no option is selected.

   b. Click the **Calendar** icon to select the **Begin Date**.

   c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

   Click **Cancel** to return to the Exception Administration screen.

7. Select how you want Notification of the Idling Exceptions sent to you. You may select more than one delivery option.

   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Real-Time message delivery** option if you want immediate notification.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

        To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

   - Check the **Standard message delivery** option if you want a list of all the Idling Exceptions that occurred the previous day.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

8. Select the radio button for the format of the device address: **PC format** or **mobile device**.

   To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

9. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

10. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

11. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

Note:

Devices can only be part of one Idling Exception. Unavailable devices that are part of a different Idling Exception are shown in the Unavailable mobile devices field along with the name of the Idling Exception to which they belong.

12. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–23.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

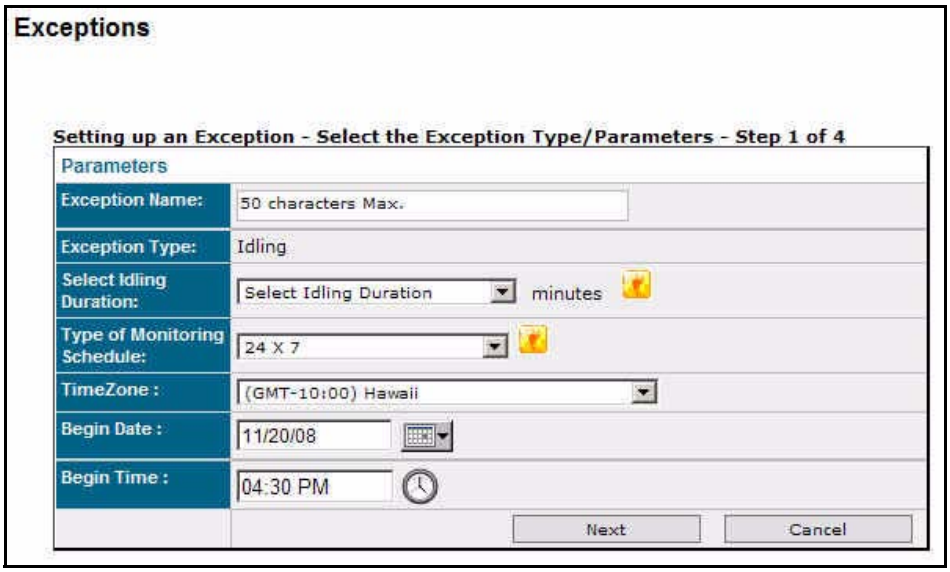


Figure 2–23 Confirmation Screen for Idling

13. Confirm the Idling Exception parameters that you selected.

14. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

    Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Landmark

Landmark Exceptions flag stops at a specific landmark type or address. This is helpful for tracking pickups and deliveries, monitoring unauthorized (e.g. personal) usage of company vehicles either during or after work hours, or flagging unscheduled customer stops.

You can specify up to 20 Landmark Exceptions for monitoring. The Trimble MRM servers monitor Landmark Exceptions and require the vehicle to stop at the Landmark to trigger an Exception.

Landmark is available for GeoManager iLM, GeoManager PE, Pathway iLM and Pathway PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Landmark**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Landmark, shown in Figure 2–24, appears.

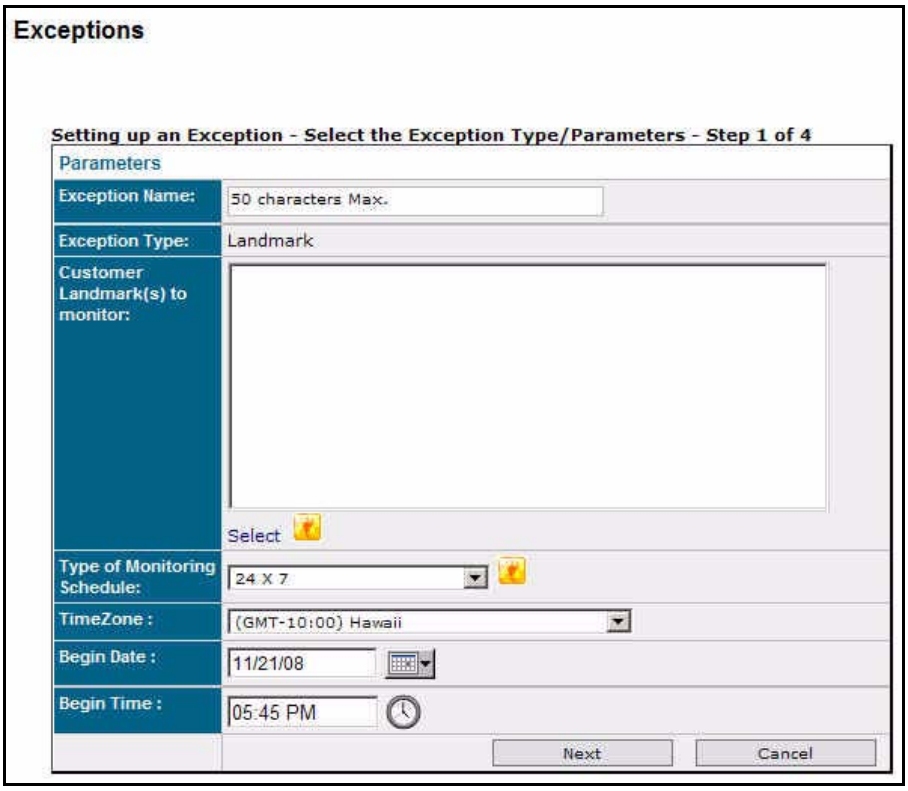


Figure 2–24 Select the Exception Type/Parameters for Landmark - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Customer Landmark(s) to monitor	Designated Landmarks, entered by an administrator, that are available for monitoring selection. For information about creating Landmarks, refer to the *GeoManager User Admin Guide*.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring landmarks for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Click **Select**. The **Landmarks** screen displays, shown in Figure 2–25, appears.

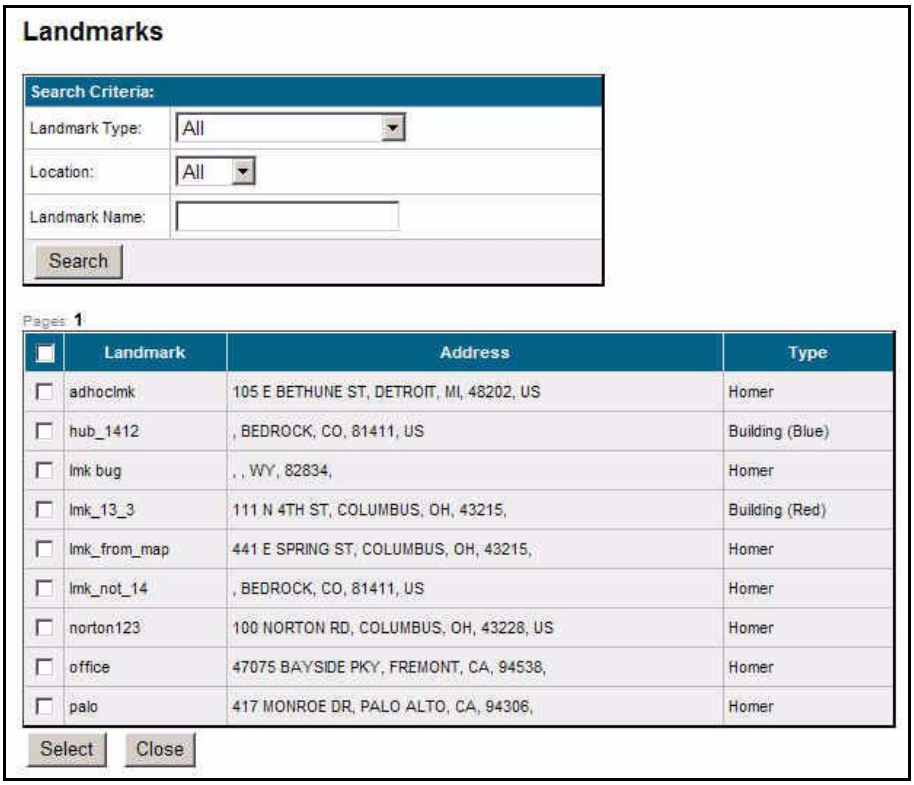


Figure 2–25 Landmarks Screen

Note:

Subsequent changes to Landmarks created for this exception will not be automatically recognized. Any Landmarks that have been changed need to be selected again in the edit/modify exception screen.

4. Select the Landmarks you would like to monitor:
   - Select the Landmark type, if applicable, from the **Landmark type** drop down menu. For more information about Landmark types, see the *GeoManager User Admin Guide*.
   - Select the location by **City**, **State** or **Zip** if applicable, from the **Location** drop down menu.
   - Enter search criteria into **Landmark Name** field, then click **Search** to search for a specific Landmark. Matching Landmarks appear in the **Available Landmarks** list.
5. Select the check box(es) next to the Landmark(s) you would like to monitor.
6. Click **Select** to add the selected Landmarks to the **Customer Landmarks to Monitor** list.

   Click **Close** exit the **Landmarks** screen without selecting landmarks.

The Landmark(s) you have selected will appear in the **Customer Landmarks to Monitor** list indicating they have been selected.

7. Select the schedule type you would like to establish for monitoring Landmark Exceptions from the **Type of Monitoring Schedule** field:

   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.

8. Click **NEXT** to open the **Schedule Options** screen.
9. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

      Click **Previous** to return to the last screen.

      Click **Cancel** to return to the Exception Administration screen.

   For **24 X 7 Schedule** options, shown in Figure 2–16:

   a. Select the correct time zone from the **Time Zone** field.

      The system will default to PDT if no option is selected.

   b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options**, shown in Figure 2–17.

Click **Cancel** to return to the Exception Administration screen.

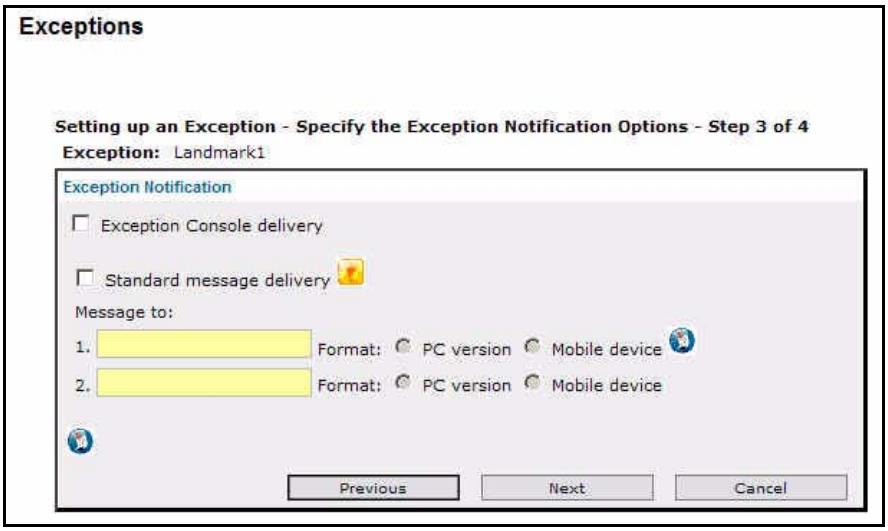


Figure 2–26 Exception Notification Screen with Standard Notification Only - Step 3 of 4

10. Select how you want Notification of the Landmark Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Standard message delivery** option if you want a list of all the Landmark Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

11. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

12. Select vehicles or hand-held devices to monitor:

- Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.

- If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
- Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

13. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

14. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–27.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

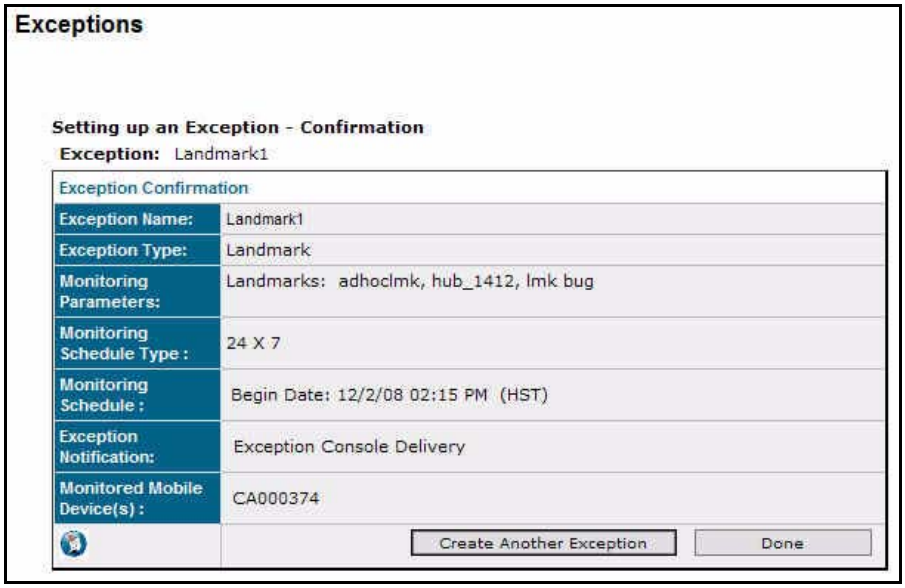


Figure 2–27 Confirmation Screen for Landmarks

15. Confirm the Landmark Exception parameters that you selected.
16. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Landmark Proximity

Landmark Proximity Exceptions flag arrivals to and departures from a specific landmark type or address. This area is more tightly confined than an area for a Zone Exception, which are covered later in this manual. Landmark Proximity Exceptions are helpful for tracking merchandise pick-up and delivery, monitoring unauthorized (e. g. personal) usage of company vehicles either during or after work hours, or flagging unscheduled customer stops.

You can specify up to 20 Landmark Proximity Exceptions for monitoring. Landmark Proximity Exceptions are monitored in the *i*LM. An Exception is triggered as soon as the vehicle breeches the Landmark for at least one minute. Stopping the vehicle is not required to trigger an Exception.

Landmark Proximity is available for GeoManager *i*LM, GeoManager PE and Pathway *i*LM.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Landmark Proximity**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Landmark Proximity, shown in Figure 2–28, appears.

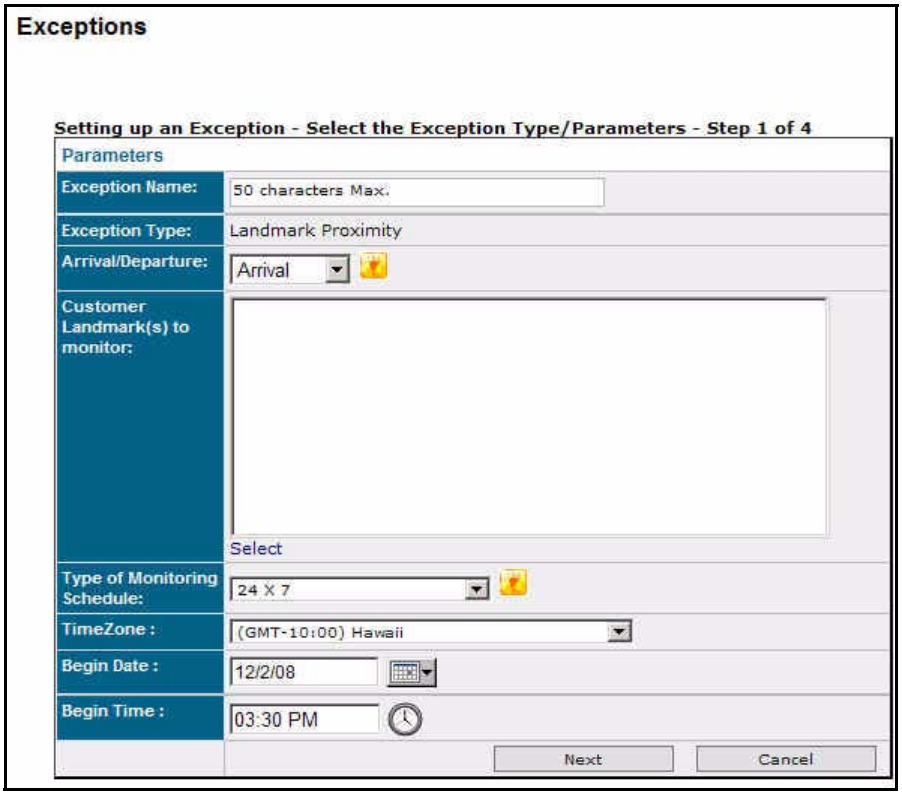


Figure 2–28 Select the Exception Type/Parameters for Landmark Proximity - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Customer Landmark(s) to monitor	Designated Landmarks, entered by an administrator, that are available for monitoring selection. For information about creating Landmarks, refer to the *GeoManager User Admin Guide*.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring landmark proximity for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

Note:

- Only circular landmarks can be monitored in landmark proximity exceptions.
- Subsequent changes to Landmarks created for this exception will not be automatically recognized. Any Landmarks that have been changed need to be selected again in the Edit/Modify Exception screen.

2. Type a name into the **Exception Name** field.
3. Click **Select**. The **Landmarks** screen displays.
4. Select the Landmarks you would like to monitor:
   - Select the Landmark type, if applicable, from the **Landmark type** drop down menu. For more information about Landmark types, see the *GeoManager User Admin Guide*.
   - Select the location by **City**, **State** or **Zip** if applicable, from the **Location** drop down menu.

- Enter search criteria into **Landmark Name** field, then click **Search** to search for a specific Landmark. Matching Landmarks appear in the **Available Landmarks** list.

5. Select the check box(es) next to the Landmark(s) you would like to monitor.
6. Click **Select** to add the selected Landmarks to the **Customer Landmarks to Monitor** list.

   Click **Close** exit the **Landmarks** screen without selecting landmarks.

   The Landmark(s) you have selected will appear in the **Customer Landmarks to Monitor** list indicating they have been selected.

7. Select the schedule type you would like to establish for monitoring Landmark Exceptions from the **Type of Monitoring Schedule** field:

   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options.

8. Click **NEXT** to open the **Schedule Options** screen.
9. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

      Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

   The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

   Click **Cancel** to return to the Exception Administration screen.

10. Select how you want Notification of the Landmark Proximity Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

  b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Landmark Proximity Exceptions that occurred the previous day.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

  b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

11. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

12. Select vehicles or hand-held devices to monitor:

- Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.

- If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
- Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

13. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

14. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–29.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

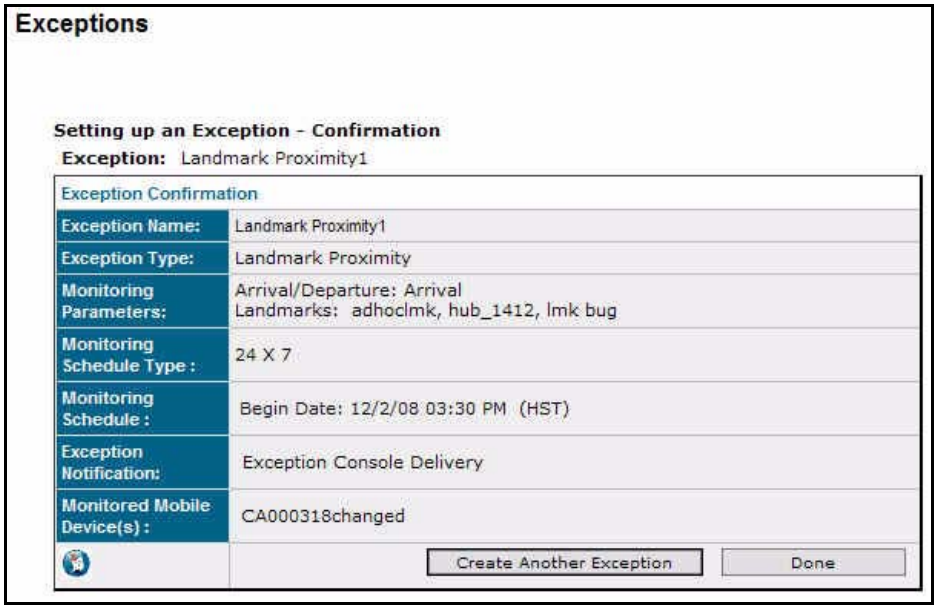


Figure 2–29 Confirmation Screen for Landmark Proximity

15. Confirm the Landmark Proximity Exception parameters that you selected.
16. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Low Battery

Low Battery Exceptions send warnings when handset or vehicle battery levels fall to a point at which no location data can be transmitted. This Exception helps remind mobile workers to charge their equipment.

Low Battery is available for GeoManager *i*LM, GeoManager PE and Pathway PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Low Battery**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Low Battery, shown in Figure 2–30, appears.

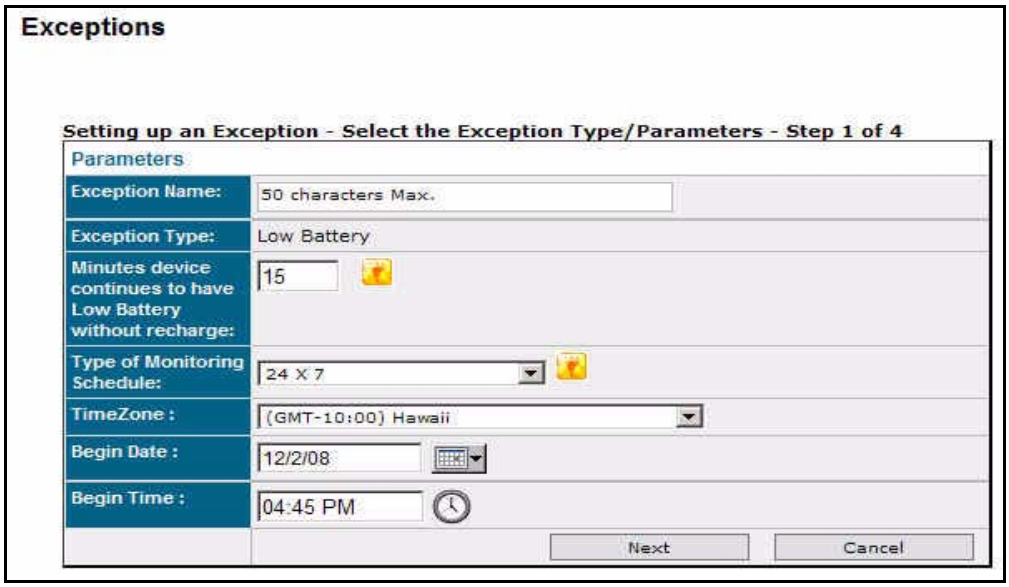


Figure 2–30 Select the Exception Type/Parameters for Low Battery - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Minutes device continues to have Low Battery with-out recharge:	If the GeoManager application is not detected as running within this number of minutes due to low battery (added to the update frequency that your service transmits to the server), an alert will be sent. This must be greater than 15 minutes.

Field	Description
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring low battery for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Enter the maximum number of minutes that the GeoManager application is not detected as running due to low battery before an Exception occurs.
4. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
5. Click **NEXT** to open the **Schedule Options** screen.
6. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:
      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

Click **Cancel** to return to the Exception Administration screen.

7. Select how you want Notification of the Low Battery Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

8. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

9. Select vehicles or hand-held devices to monitor:

   - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
   - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
   - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

10. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

11. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–37.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

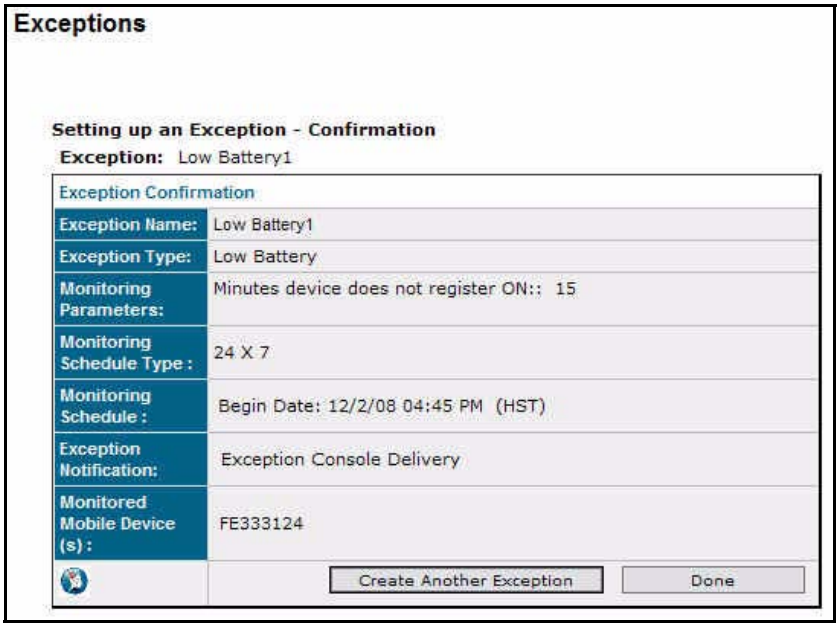


Figure 2–31 Confirmation Screen for Low Battery

12. Confirm the Low Battery Exception parameters that you selected.

13. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Messaging

Messaging Exception works in conjunction with our Messaging option. It allows exceptions to be sent as an alert notification when certain pre-defined messages are sent by the driver. For example, you can tie an alert to the pre-defined message "Driver has flat tire."

Whenever this pre-defined message is sent, the system forwards an e-mail or notification console alert to the dispatcher and maintenance group to ensure that immediate assistance is provided to the driver.

Messaging is available for GeoManager *i*LM and GeoManager PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Messaging**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Idling, shown in Figure 2–32, appears.

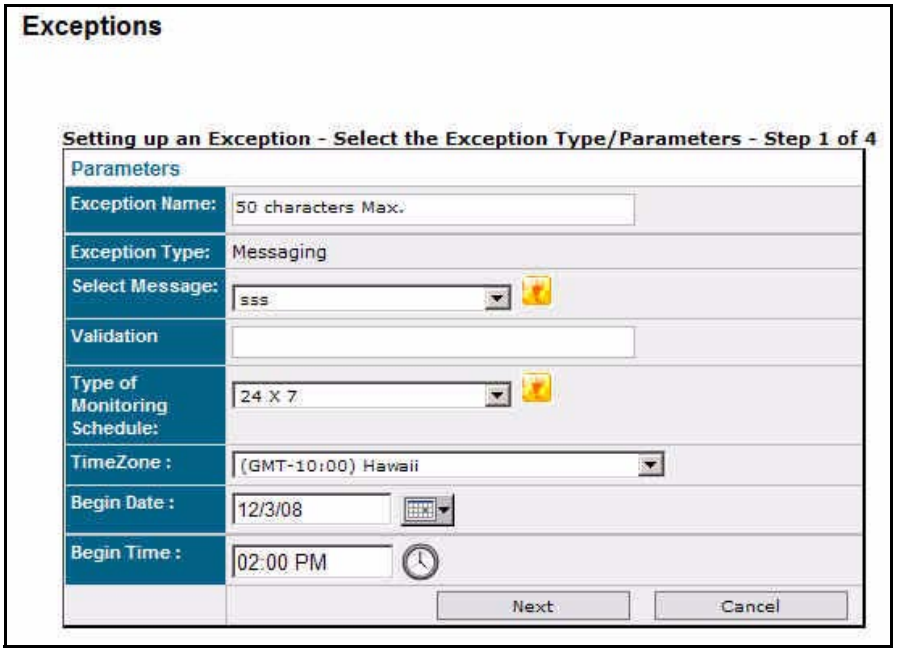


Figure 2–32 Select the Exception Type/Parameters for Messaging - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Select Message	A list of your custom canned messages will appear.
Validation	This step allows a second level of validation to ensure the correct message flags an exception. Leave the box blank if you do not wish to use this extra validation.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring messaging for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the pre-typed message from the **Select Message** drop-menu.
4. If desired, enter the exact words that will be used to validate the message in the **Validation** field.
5. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
6. Click **NEXT** to open the **Schedule Options** screen.
7. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

a. Select one of the four options from the **Predefined Schedules** field:

- Week Days
- Week Nights
- Weekends
- Nights and Weekends

b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

Click **Cancel** to return to the Exception Administration screen.

8. Select how you want Notification of the Messaging Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

  b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

9. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

10. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

11. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

12. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–33.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

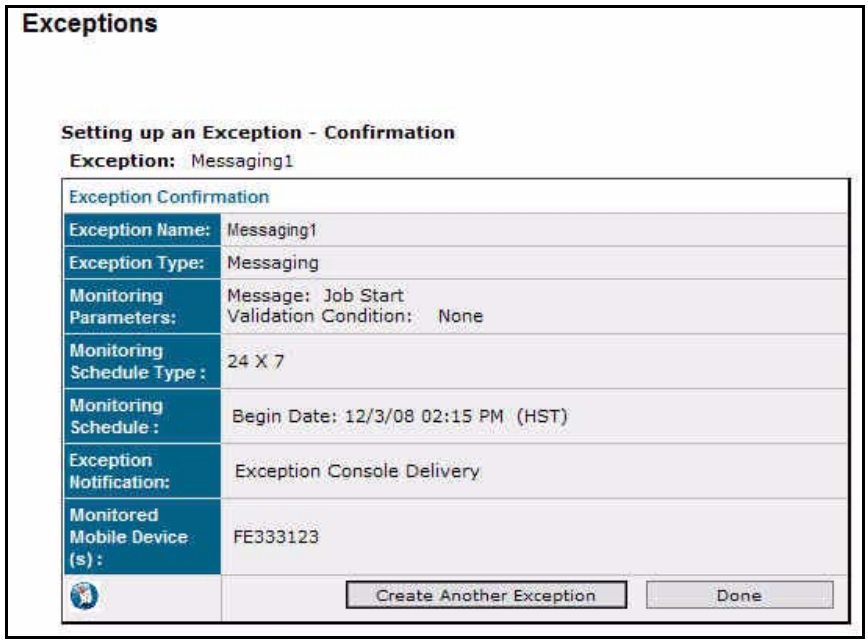


Figure 2–33 Confirmation Screen for Messaging

13. Confirm the Messaging Exception parameters that you selected.
14. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Mileage

Mileage Exceptions occur when a mobile device exceeds a predefined number of miles within a specified work day. By monitoring mobile worker mileage, companies can save money by determining which mobile workers consistently exceed mileage parameters and determining more efficient routes.

The Mileage Exception is available for GeoManager *i*LM and GeoManager PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Mileage**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Idling, shown in Figure 2–34, appears.

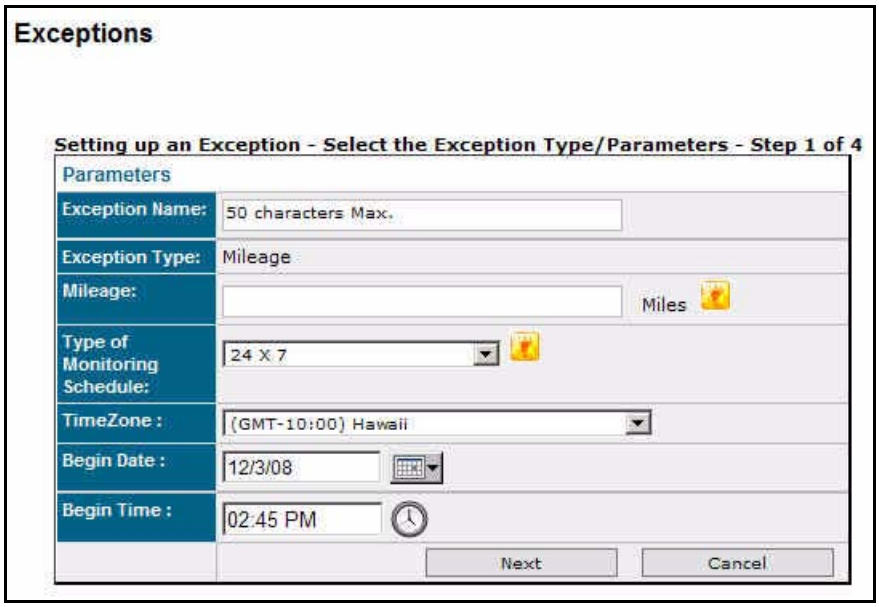


Figure 2–34 Select the Exception Type/Parameters for Mileage - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Mileage	The daily mileage the mobile device must exceed to trigger an exception.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

Note:
A mobile device cannot exist in more than one mileage exception.

2. Type a name into the **Exception Name** field.
3. Enter the maximum number of miles the mobile device can travel per day.
4. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
5. Click **NEXT** to open the **Schedule Options** screen.
6. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:
      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

      Click **Previous** to return to the last screen.

      Click **Cancel** to return to the Exception Administration screen.

   For **24 X 7 Schedule** options:

   a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–16.

Click **Cancel** to return to the Exception Administration screen.

7. Select how you want Notification of the Mileage Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

8. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

9. Select vehicles or hand-held devices to monitor:

- Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
- If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
- Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

10. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

11. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–35.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

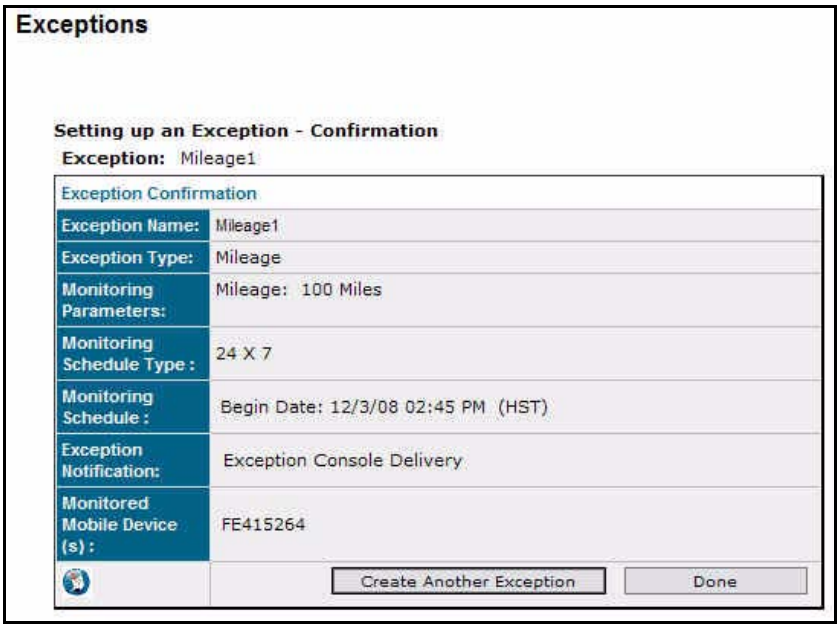


Figure 2–35 Confirmation Screen for Mileage

12. Confirm the Mileage Exception parameters that you selected.

13. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Mobile Device Vicinity

Mobile Device Vicinity monitors the occurrences of multiple mobile devices stopping within a defined distance from each other for a period of time common to both or all. This allows companies to check for route overlap or flag unproductive time if mobile devices are grouped near each other for extended periods of time.

Mobile Device Vicinity is available for GeoManager *i*LM, GeoManager PE and Pathway *i*LM.

Note:

Landmarks designated as Type 14 exclude vehicle congregation from the Mobile Device Vicinity Exception report.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Mobile Device Vicinity**. The **Setting up an Exception - Select the Exception Type/ Parameters – Step 1 of 4** screen for Landmark, shown in Figure 2–36.

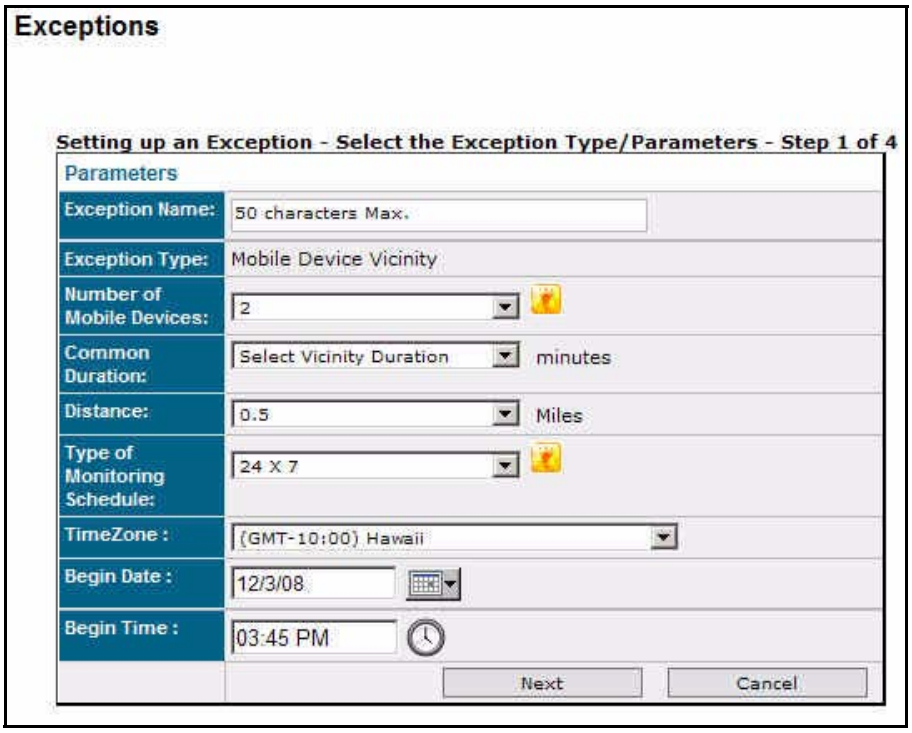


Figure 2–36 Select the Exception Type/Parameters for Mobile Device Vicinity - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Number of Mobile Devices	The number of mobile devices that must be in proximity to each other before an Exception is triggered. This can be anywhere from 2 to 10 devices.
Common Duration	The amount of time the specified number of mobile devices must be in proximity to each other before an Exception is triggered. This can be anywhere from 5 to 60 minutes.
Distance	The range, in Miles, of the mobile devices before an Exception is triggered. This can be from 0.5 to 2.0 miles in 0.5 mile increments.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring landmarks for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the number of mobile devices that must be in proximity to each other from the **Number of Vehicles** drop-menu.
4. Select the amount of time the mobile devices must be in proximity to each other from the **Common Duration** drop-menu.
5. Select how close the mobile devices must be from the **Distance** drop-menu.
6. Select the schedule type you would like to establish for monitoring Landmark Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

Each type of schedule has different set-up options which appear in the next screen.

7. Click **NEXT** to open the **Schedule Options** screen.
8. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

      Click **Previous** to return to the last screen.

      Click **Cancel** to return to the Exception Administration screen.

   For **24 X 7 Schedule** options, shown in Figure 2–16:

   a. Select the correct time zone from the **Time Zone** field.

      The system will default to PDT if no option is selected.

   b. Click the **Calendar** icon to select the **Begin Date**.

   c. Click the **Clock** icon to select the **Begin Time**.

   d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

      Click **Cancel** to return to the Exception Administration screen.

9. Select how you want Notification of the Mobile Device Vicinity Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Standard message delivery** option if you want a list of all the Landmark Exceptions that occurred the previous day.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

  b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

10. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

11. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

12. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

13. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–37.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

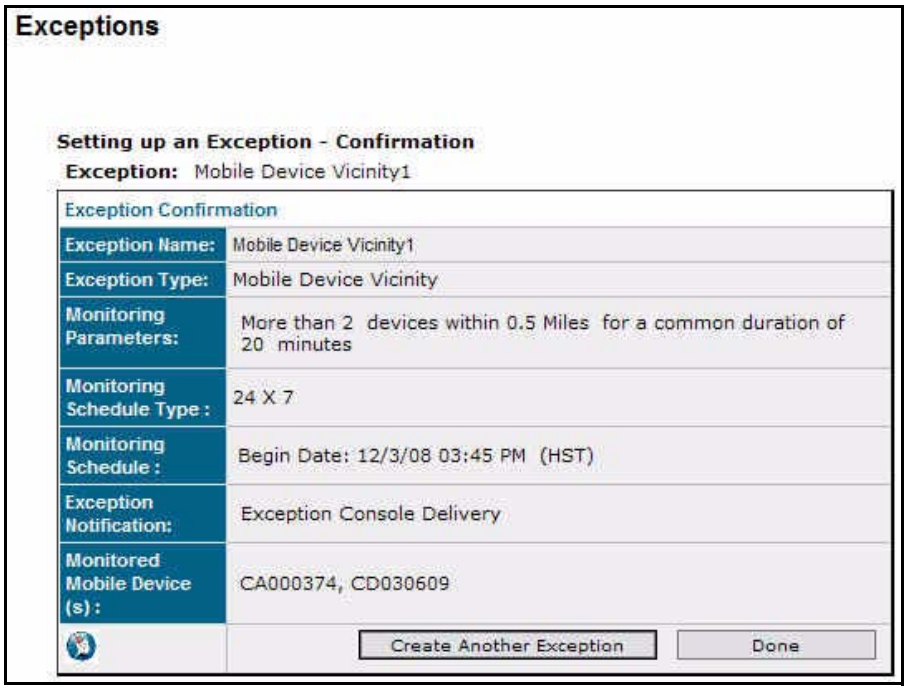


Figure 2–37 Confirmation Screen for Mobile Device Vicinity

14. Confirm the Mobile Device Vicinity Exception parameters that you selected.
15. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Off Hours/Unauthorized Use

When a mobile device is used outside of designated work hours, an Off Hours/Unauthorized Use Exception occurs. This Exception helps a company discover whether company resources are being used when mobile workers are not on shift.

Off Hours/Unauthorized Use is available for GeoManager *i*LM and GeoManager PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Off Hours/Unauthorized Use**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Off Hours/Unauthorized Use, shown in Figure 2–38, appears.

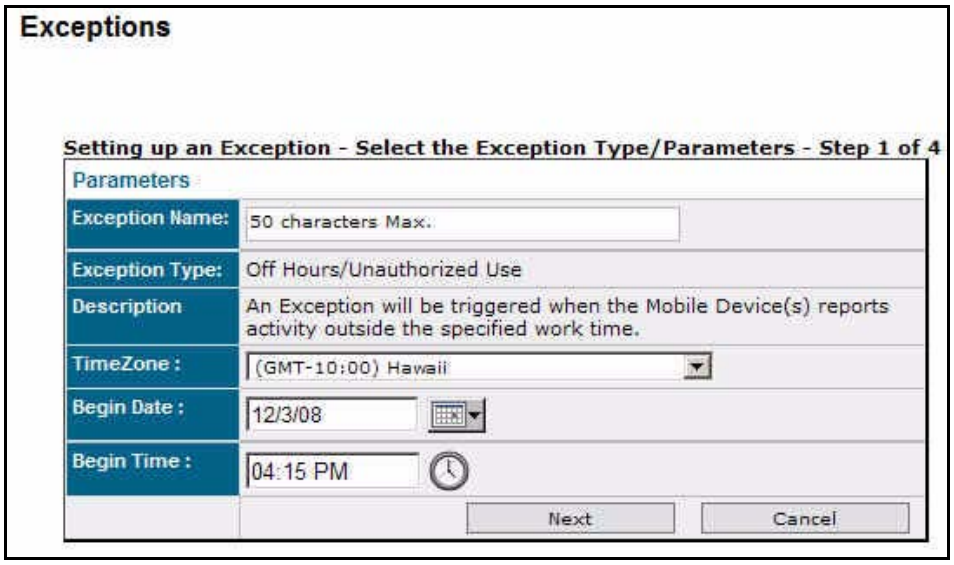


Figure 2–38 Select the Exception Type/Parameters for Idling - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Description	An Exception will be triggered when the mobile device(s) reports activity outside the specified work time.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Click **NEXT** to open the **Setting up an exception - Specify the Monitoring Schedule** screen.
4. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

- Week Days
- Week Nights
- Weekends
- Nights and Weekends

b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

5. Select how you want Notification of the Off Hours/Unauthorized Use Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Standard message delivery** option if you want a list of all the Landmark Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

6. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

7. Select vehicles or hand-held devices to monitor:

- Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.

- If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
- Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

8. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

   Click **All>>** to add all devices from the **Available mobile devices** list.
   The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

9. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–39.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

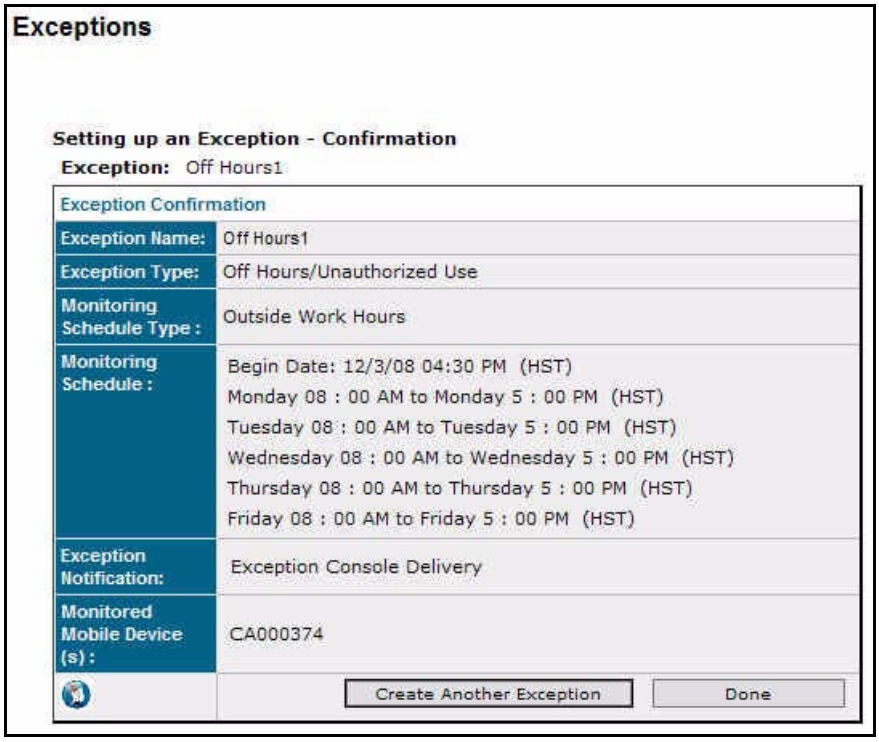


Figure 2–39 Confirmation Screen for Mobile Device Vicinity

10. Confirm the Off Hours/Unauthorized Use parameters that you selected.
11. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click Create Another Exception if you want to create other Exceptions. The Select Exception Type screen appears.

Speed

Speed Exceptions flag vehicles that drive above a maximum speed for a specific block of time. This is helpful in monitoring both fleet safety and cost containment since speeding can be tied to accidents and higher insurance rates.

Speed is available for GeoManager *i*LM, GeoManager PE, Pathway *i*LM and Pathway PE.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Speed**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Speed, shown in Figure 2–40, appears.

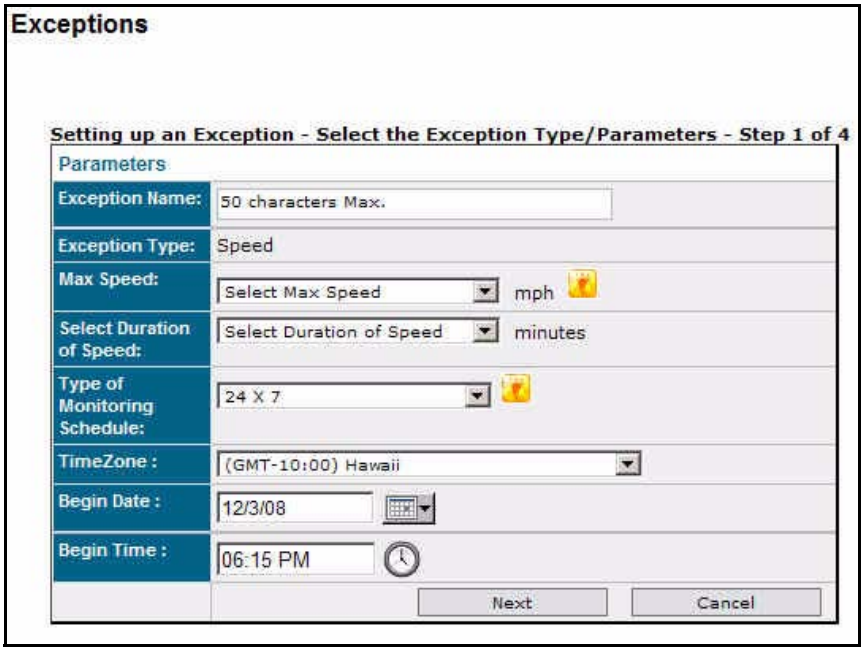


Figure 2–40 Select the Exception Type/Parameters for Speed - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.

Field	Description
Max Speed	The maximum speed the mobile worker can reach before an Exception is triggered. • An Exception is triggered when the speed of the mobile device(s) exceeds the maximum speed for X minutes. The minutes must be consecutive minutes. • A mobile device cannot exist in more than one speed exception.
Select Duration of Speed	The continuous amount of time the Max Speed is exceeded before an Exception is triggered.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the maximum speed at which vehicles in your fleet are allowed to travel from the **Max Speed** field.
4. From the **Duration** field, select the number of minutes a vehicle must travel at the maximum speed before an alert is created. This can be anywhere between 2 and 10 minutes in duration.
5. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
6. Click **NEXT** to open the **Schedule Options** screen.
7. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

- Week Days
- Week Nights
- Weekends
- Nights and Weekends

b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

Click **Cancel** to return to the Exception Administration screen.

8. Select how you want Notification of the Speed Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

  b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

9. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

10. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

11. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

12. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–41.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

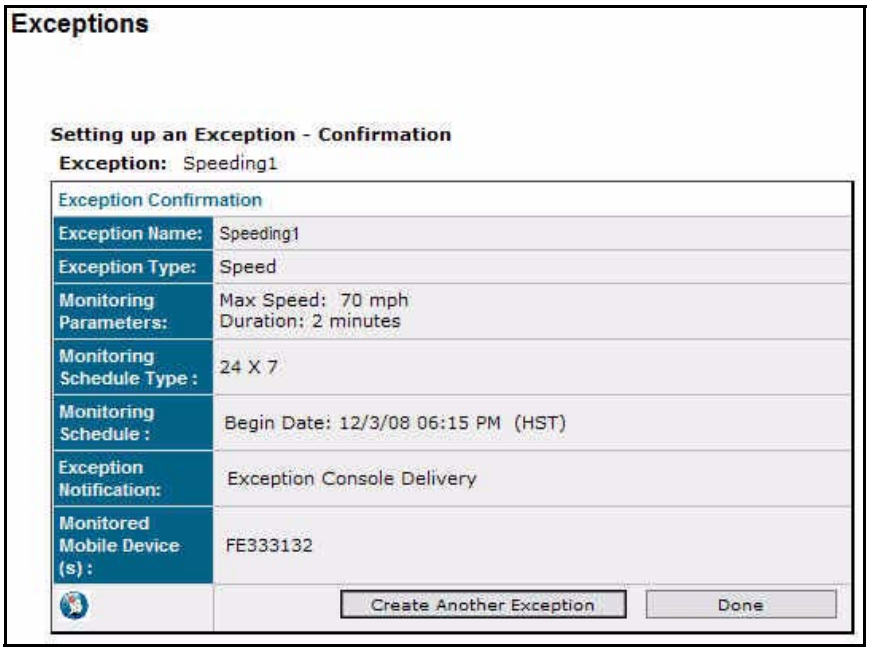


Figure 2–41 Confirmation Screen for Speed

13. Confirm the Speed Exception parameters that you selected.
14. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Stop

Stop Exceptions monitor total daily stop time accumulated at specific locations (Landmarks). This is helpful in determining if workers are spending too much time at non-revenue generating facilities such as a home office or base location.

Noting Stop Exceptions can help drive productivity by capturing less-than-usual numbers of expected deliveries, or potentially assist with security breaches if higher-than-usual numbers of expected stops are noted.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Stop**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Stop, shown in Figure 2–42, appears.

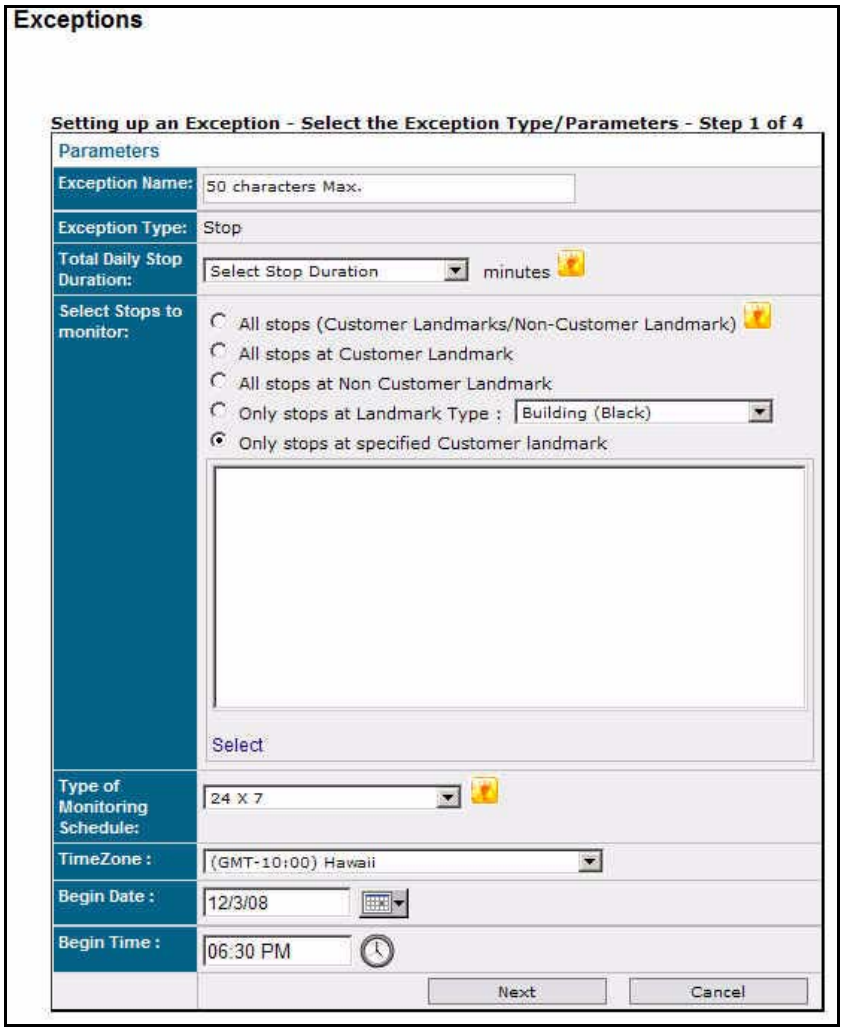


Figure 2–42 Select the Exception Type/Parameters for Stop - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Total Daily Stop Duration	This is the daily total duration of stops made at each landmark. For example, if a mobile device stops at Joe's Gas Station twice today for 5 minutes each, the total daily stop duration is 10 minutes. This can be anywhere from 15 to 120 minutes in five minute increments.

Field	Description
Select Stops to Monitor	These radio buttons allow you to select the types of Landmarks you want to monitor: • All Stops (Customer Landmarks/Non-Customer Landmark) • All Stops at Customer Landmark • All Stops at Non Customer Landmark • Only Stops at Landmark Type (Select from drop-down menu) • Only Stops at Specified Customer Landmark For information about creating Landmarks, refer to the GeoManager User Admin Guide.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring Stops for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the daily total duration of stops from the **Total Daily Stop Duration** drop-menu.
4. Select the type of Stops you want monitored from the **Select Stops to Monitor** radio buttons.

- If you select **Only Stops at Landmark Type**, select the Landmark type, if applicable, from the **Landmark Type** drop-menu. For more information about Landmark types, see the GeoManager Administrator Manual.
- If you select **Only Stops at Specified Customer Landmark**:

a. Click **Select**. The **Landmarks** screen displays.

b. Select the Landmarks you would like to monitor:

- Select the Landmark type, if applicable, from the **Landmark type** drop down menu. For more information about Landmark types, see the *GeoManager User Admin Guide*.
- Select the location by **City**, **State** or **Zip** if applicable, from the **Location** drop down menu.

- Enter search criteria into **Landmark Name** field, then click **Search** to search for a specific Landmark. Matching Landmarks appear in the **Available Landmarks** list.

c. Select the check box(es) next to the Landmark(s) you would like to monitor.

d. Click **Select** to add the selected Landmarks to the **Customer Landmarks to Monitor** list.

Click **Close** exit the **Landmarks** screen without selecting landmarks.

The Landmark(s) you have selected will appear in the **Customer Landmarks to Monitor** list indicating they have been selected.

5. Select the schedule type you would like to establish for monitoring Landmark Exceptions from the **Type of Monitoring Schedule** field:

- Recurring
- 24 X 7

Each type of schedule has different set-up options.

6. Click **NEXT** to open the **Schedule Options** screen.

7. Set-up the options for your schedule.

For predefined **Recurring Schedule** options, shown in Figure 2–15:

a. Select one of the four options from the **Predefined Schedules** field:

- Week Days
- Week Nights
- Weekends
- Nights and Weekends

b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

   The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

   Click **Cancel** to return to the Exception Administration screen.

8. Select how you want Notification of the Stop Exceptions sent to you. You may select more than one delivery option.

   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Standard message delivery** option if you want a list of all the Landmark Proximity Exceptions that occurred the previous day.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

        To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

9. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

   Click **Previous** to return to the last screen.
   Click **Cancel** to return to the **Exception Administration** screen.

10. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

11. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

12. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–43.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

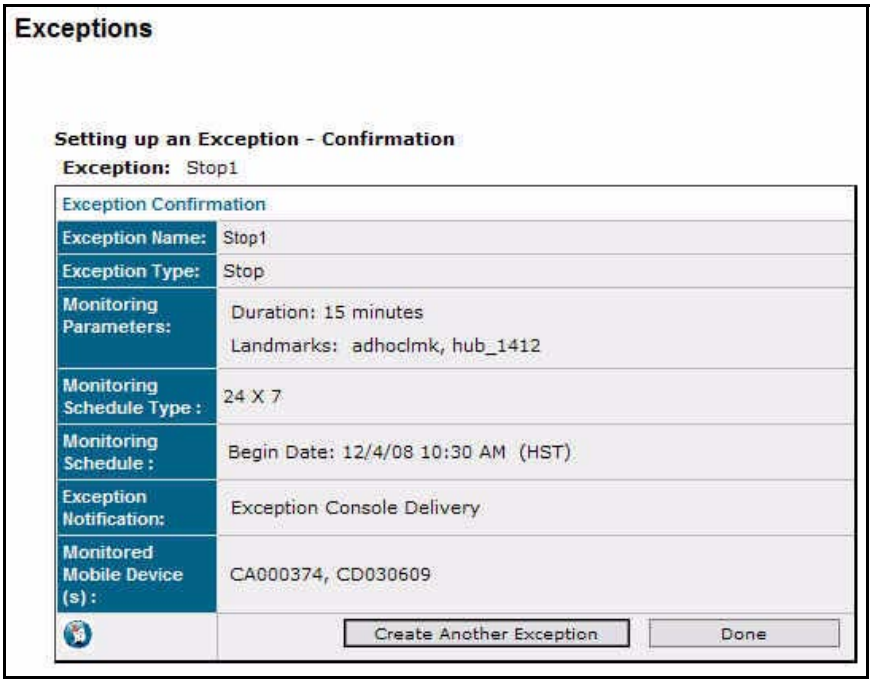


Figure 2–43 Confirmation Screen for Stop

13. Confirm the Stop Exception parameters that you selected.
14. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Stop Count

Stop Count Exceptions monitor the total number of stops a vehicle makes. This can help a company determine which mobile workers are performing too many or too few stops during a shift.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Stop Count**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Stop Count, shown in Figure 2–44, appears.

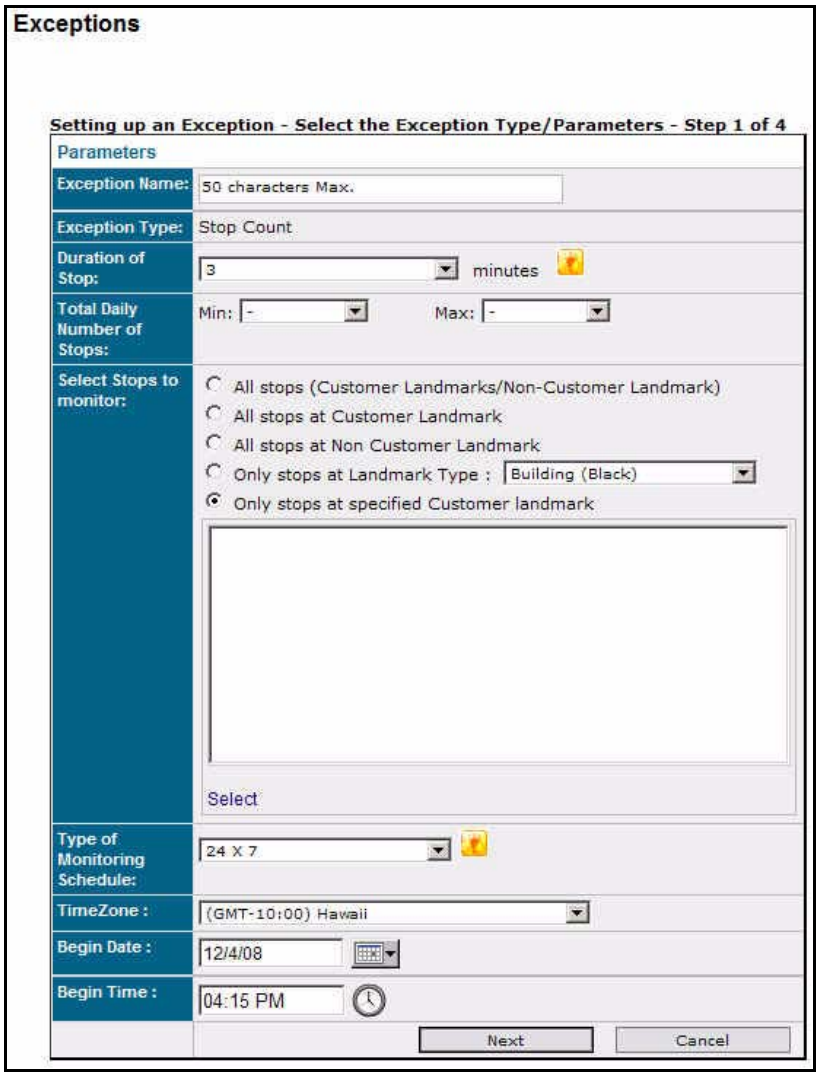


Figure 2–44 Select the Exception Type/Parameters for Stop Count - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Duration of Stop	This is the maximum amount of time before an Exception occurs. This can be anywhere from 3 to 240 minutes in five minute increments.
Total Daily Number of Stops	This is the minimum and/or maximum number of stops a mobile device can make before an Exception occurs.

Field	Description
Select Stops to Monitor	These radio buttons allow you to select the types of Landmarks you want to monitor: • All Stops (Customer Landmarks/Non-Customer Landmark) • All Stops at Customer Landmark • All Stops at Non Customer Landmark • Only Stops at Landmark Type (Select from drop-down menu) • Only Stops at Specified Customer Landmark For information about creating Landmarks, refer to the GeoManager User Admin Guide.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring Stops for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the stop duration from the **Duration of Stop** drop-down menu.
4. Select the minimum and maximum total daily number of stops from the **Min** and **Max** drop-down menus.
5. Select the type of Stops you want monitored from the **Select Stops to Monitor** radio buttons.

   - If you select **Only Stops at Landmark Type**, select the Landmark type, if applicable, from the **Landmark Type** drop-menu. For more information about Landmark types, see the GeoManager Administrator Manual.
   - If you select **Only Stops at Specified Customer Landmark**:

     a. Click **Select**. The **Landmarks** screen displays.

     b. Select the Landmarks you would like to monitor:

        • Select the Landmark type, if applicable, from the **Landmark type** drop down menu. For more information about Landmark types, see the *GeoManager User Admin Guide*.

- Select the location by **City**, **State** or **Zip** if applicable, from the **Location** drop down menu.
- Enter search criteria into **Landmark Name** field, then click **Search** to search for a specific Landmark. Matching Landmarks appear in the **Available Landmarks** list.

c. Select the check box(es) next to the Landmark(s) you would like to monitor.

d. Click **Select** to add the selected Landmarks to the **Customer Landmarks to Monitor** list.

Click **Close** exit the **Landmarks** screen without selecting landmarks.

The Landmark(s) you have selected will appear in the **Customer Landmarks to Monitor** list indicating they have been selected.

6. Select the schedule type you would like to establish for monitoring Landmark Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options.
7. Click **NEXT** to open the **Schedule Options** screen.
8. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:
      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

   The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

   Click **Cancel** to return to the Exception Administration screen.

9. Select how you want Notification of the Stop Count Exceptions sent to you. You may select more than one delivery option.

   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Standard message delivery** option if you want a list of all the Landmark Proximity Exceptions that occurred the previous day.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

        To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

10. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

11. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

12. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.

The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

13. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–45.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

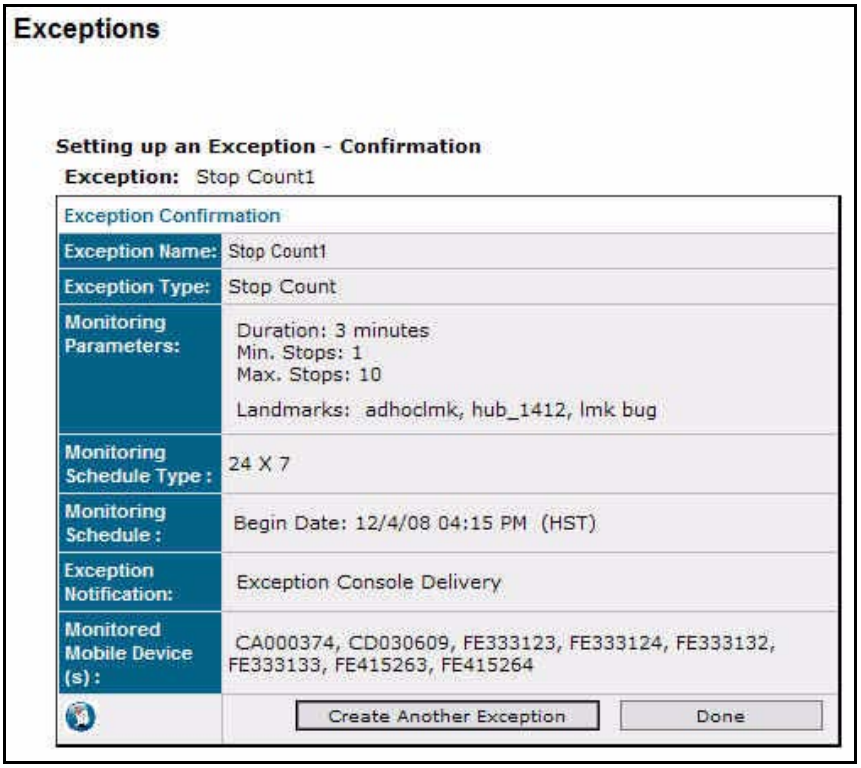


Figure 2–45 Confirmation Screen for Stop

14. Confirm the Stop Count Exception parameters that you selected.
15. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Stop Duration

Stop Duration Exceptions occur when the total amount of time a mobile worker spends at a stop exceeds a set threshold during a defined workday. This helps companies identify workers who spend too much or too little time stopped at any location.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Stop Duration**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Stop Duration, shown in Figure 2–46, appears.

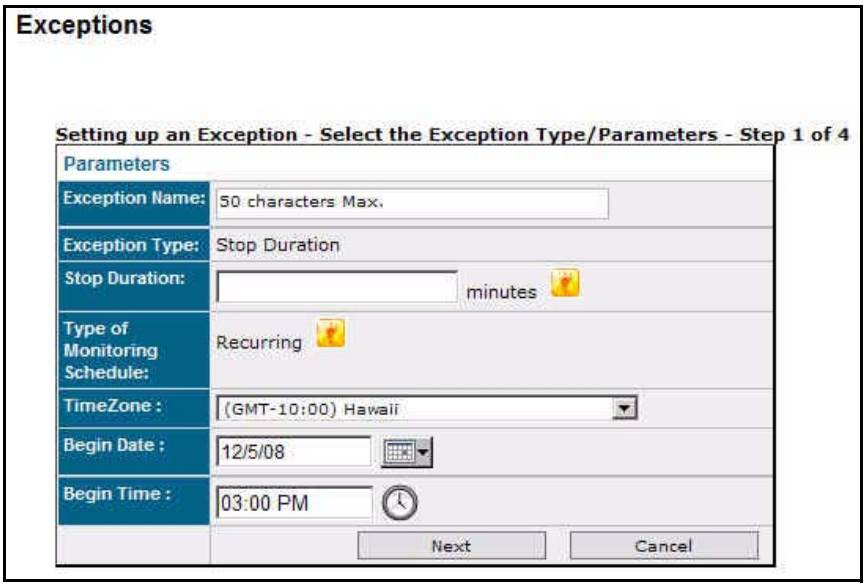


Figure 2–46 Select the Exception Type/Parameters for Stop Duration - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Stop Duration	This is the maximum amount of time a mobile device can be stopped before an Exception occurs.
Type of Monitoring Schedule	Monitoring Schedules are available for a Recurring Schedule, which is a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s).
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.

Field	Description
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Enter the maximum number of minutes a vehicle must stopped before an alert is created in the **Stop Duration** field.
4. Click **NEXT** to open the **Schedule Options** screen.
5. Set-up the options for your schedule.
    a. Select one of the four options from the **Predefined Schedules** field:
        - Week Days
        - Week Nights
        - Weekends
        - Nights and Weekends
    b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.
    c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.
    d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.
    e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.
    f. To clear the selected options and re-enter information, click **Clear**.
    g. Click **Next** to advance to the next screen.

    Click **Previous** to return to the last screen.

    Click **Cancel** to return to the Exception Administration screen.
6. Select how you want Notification of the Stop Duration Exceptions sent to you. You may select more than one delivery option.
    - Check the **Exception Console Delivery** check box if you want console notification.
    - Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

7. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

8. Select vehicles or hand-held devices to monitor:

- Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
- If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
- Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

9. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

Click **All>>** to add all devices from the **Available mobile devices** list.
The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

10. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–47.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

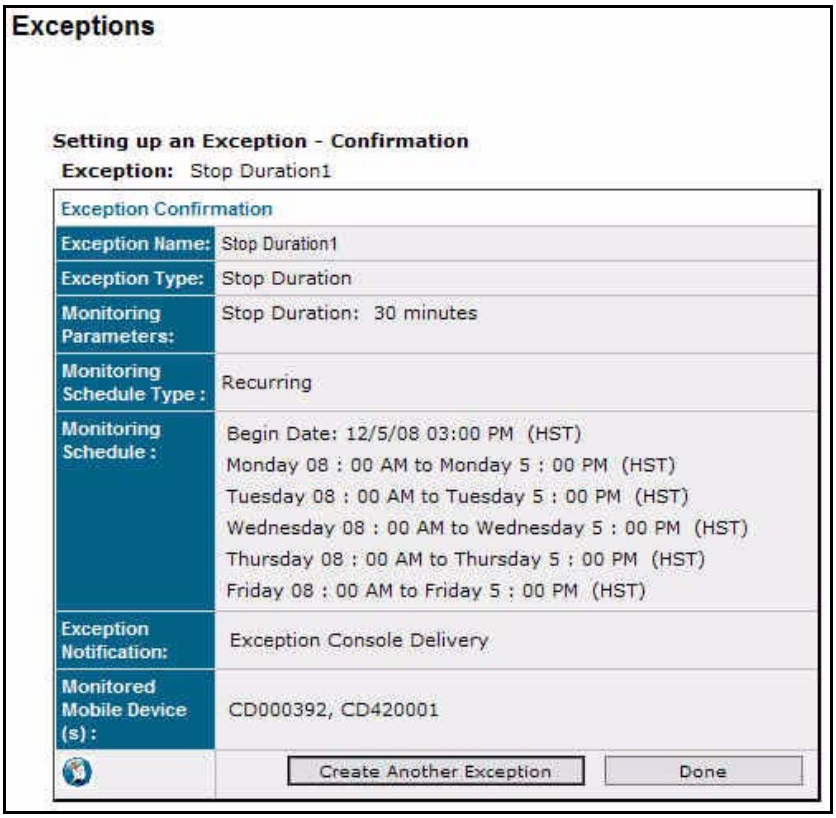


Figure 2–47 Confirmation Screen for Stop Duration

11. Confirm the Stop Duration Exception parameters that you selected.
12. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Switch Status

Switch Status Exceptions keep track of on/off events such as door open/door close or trunk open/trunk close. This is used to identify irregularities such as unauthorized deliveries (door open/door close), unauthorized tows (crane arm up, crane arm down), or unauthorized passenger pick-ups (passenger door open, passenger door close).

Switch Status Exceptions can also be tied to pre-defined Landmarks to identify stops at non-customer sites.

Almost any on/off switch in the vehicle may be monitored for activity, and Exceptions to what you define as normal can be flagged. You can define up to 20 Switch Status Exceptions for your account. Only one Switch Status Exception can be configured for a vehicle at a time.

Switch Status Exceptions are available for GeoManager *i*LM.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Switch Status**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Switch Status, shown in Figure 2–48, appears.

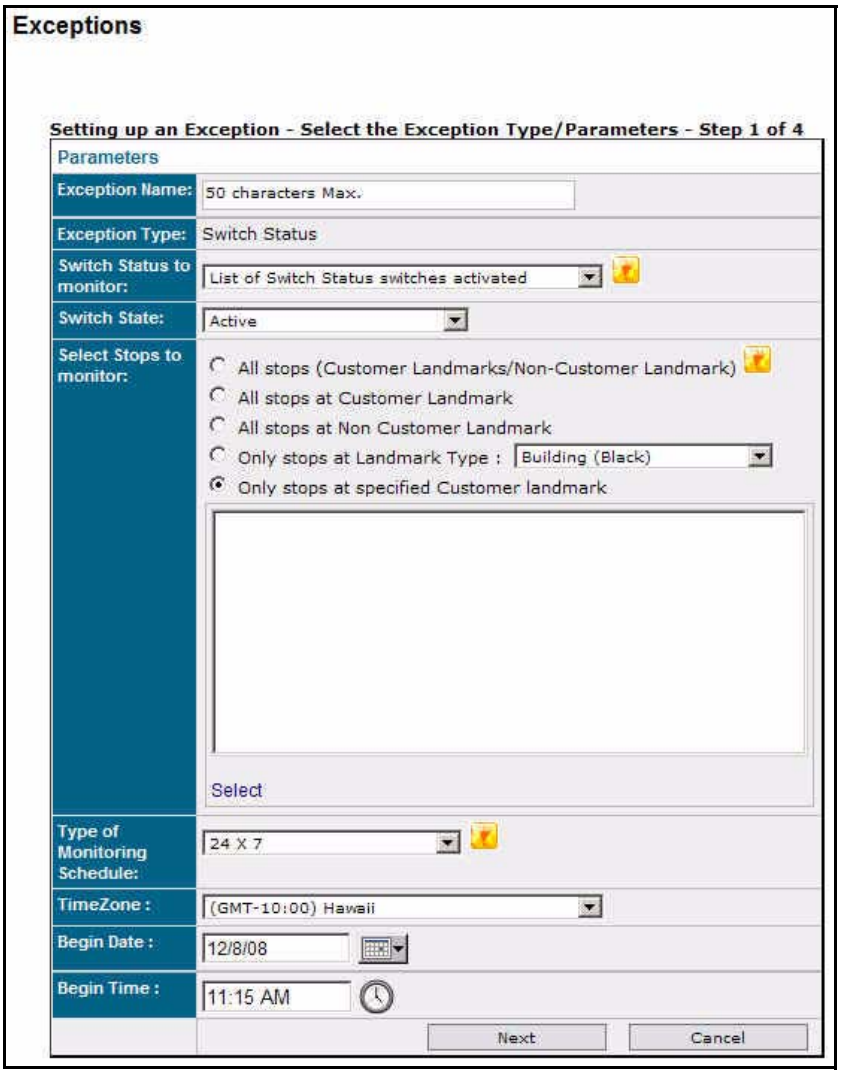


Figure 2–48 Select the Exception Type/Parameters for Switch Status - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Switch Status to Monitor	A predefined list of switches on the vehicle that you want to monitor. This can be a door, trunk, roll-up door, pump-engine, etc. You can monitor on, off or both for the switch.
Switch State	Allows you to change the state of the switch to Active, Inactive or Both.
Select Stops to Monitor	These radio buttons allow you to select the types of Landmarks you want to monitor: • All Stops (Customer Landmarks/Non-Customer Landmark) • All Stops at Customer Landmark • All Stops at Non Customer Landmark • Only Stops at Landmark Type (Select from drop-down menu) • Only Stops at Specified Customer Landmark For information about creating Landmarks, refer to the GeoManager User Admin Guide.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring Stops for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Select the type of switch to monitor from the **Switch Status to Monitor** drop-down menu.
4. Select the state of the switch you want to monitor:
   - Active
   - Inactive

- Both

5. Select the type of Stops you want monitored from the **Select Stops to Monitor** radio buttons.

   - If you select **Only Stops at Landmark Type**, select the Landmark type, if applicable, from the **Landmark Type** drop-menu. For more information about Landmark types, see the GeoManager Administrator Manual.
   - If you select **Only Stops at Specified Customer Landmark**:

     a. Click **Select**. The **Landmarks** screen displays.

     b. Select the Landmarks you would like to monitor:

        - Select the Landmark type, if applicable, from the **Landmark type** drop down menu. For more information about Landmark types, see the *GeoManager User Admin Guide*.
        - Select the location by **City**, **State** or **Zip** if applicable, from the **Location** drop down menu.
        - Enter search criteria into **Landmark Name** field, then click **Search** to search for a specific Landmark. Matching Landmarks appear in the **Available Landmarks** list.

     c. Select the check box(es) next to the Landmark(s) you would like to monitor.

     d. Click **Select** to add the selected Landmarks to the **Customer Landmarks to Monitor** list.

        Click **Close** exit the **Landmarks** screen without selecting landmarks.

   The Landmark(s) you have selected will appear in the **Customer Landmarks to Monitor** list indicating they have been selected.

6. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:

   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.

7. Click **NEXT** to open the **Schedule Options** screen.

8. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

      - Week Days
      - Week Nights
      - Weekends

- Nights and Weekends

b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

Click **Cancel** to return to the Exception Administration screen.

9. Select how you want Notification of the Switch Status Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

10. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

11. Select vehicles or hand-held devices to monitor:

- Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
- If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
- Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

12. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

Click **All>>** to add all devices from the **Available mobile devices** list.
The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

13. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–49.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

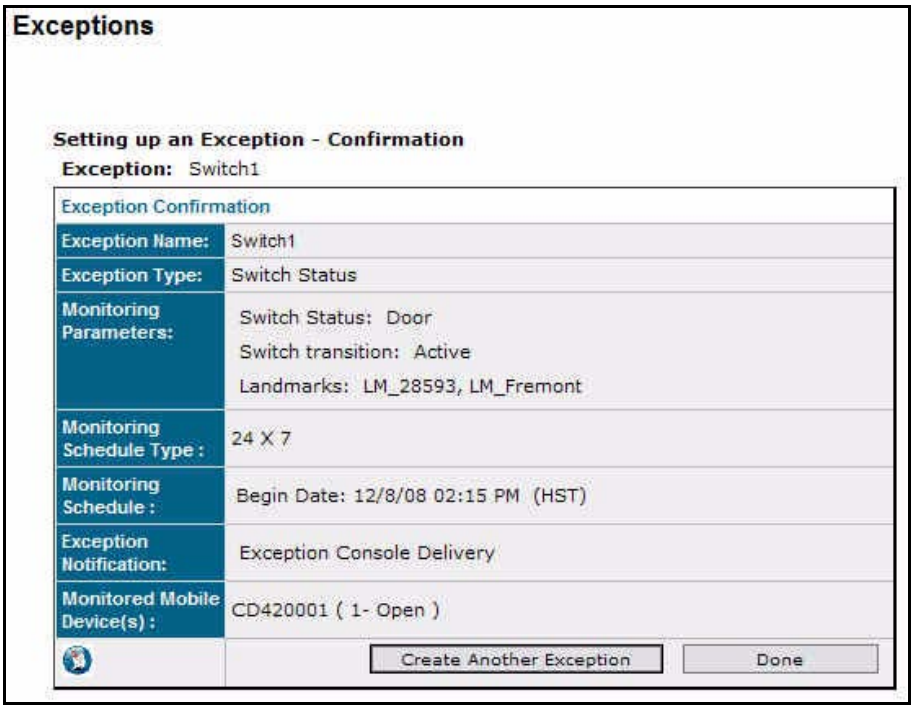


Figure 2–49 Confirmation Screen for Switch Status

14. Confirm the Switch Status Exception parameters that you selected.
15. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Temp Status

Temp Status Exception monitors the temperature inside mobile assets. Temp Status Exception flags deviance in temperature for defined periods of time. For example, if the temperature inside a refrigerated truck climbs 5 degrees above normal and stays there for more than 10 minutes, an Exception is triggered. Dispatch then notifies the driver that there is a problem with the refrigeration unit.

You can define up to 20 Temp Status Type Exceptions for your account.

Temp Status Exceptions are available for GeoManager *i*LM.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Temp Status**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Temp Status, shown in Figure 2–50, appears.

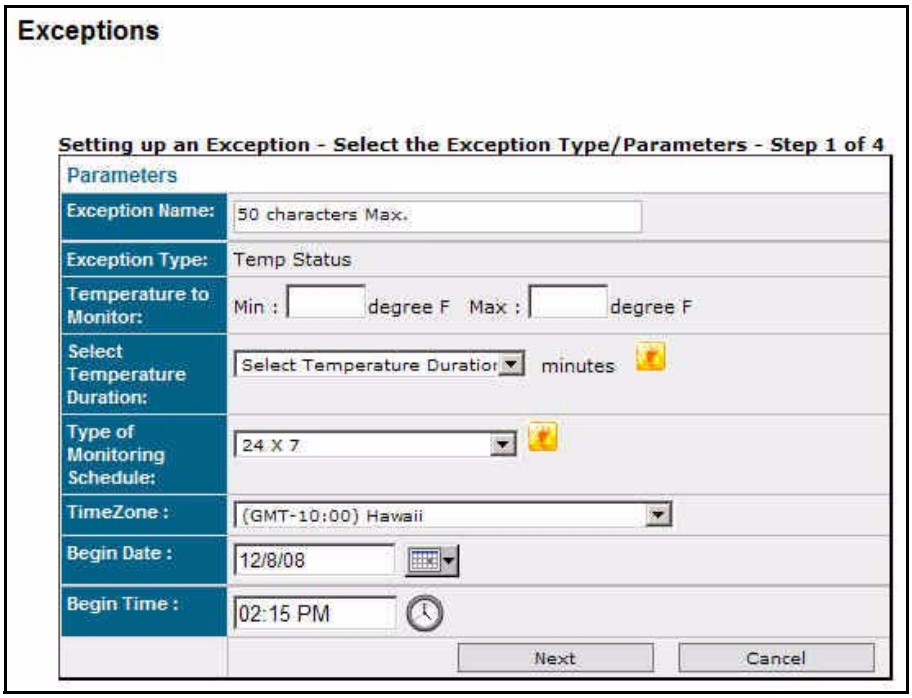


Figure 2–50 Select the Exception Type/Parameters for Temp Status - Step 1 of 4

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Temperature to Monitor	The minimum and maximum acceptable temperatures for the vehicle. This must be in degrees Fahrenheit.
Select Temperature Duration	The maximum amount of time the temperature can be outside the temperature range before triggering an Exception.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.

Field	Description
Begin Date	The month, day and year you want to begin monitoring Temp Status for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

2. Type a name into the **Exception Name** field.
3. Enter the minimum and maximum acceptable temperatures in the **Temperature to Monitor Min** and **Max** fields.
4. Select the maximum amount of time that is acceptable for the temperature of the vehicle to be outside the selected temperature range from the **Select Temperature Duration** drop-down menu.
5. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.
6. Click **NEXT** to open the **Schedule Options** screen.
7. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:
      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hour**, **Min** and **AM/PM** fields as needed.

f. To clear the selected options and re-enter information, click **Clear**.

g. Click **Next** to advance to the next screen.

Click **Previous** to return to the last screen.

Click **Cancel** to return to the Exception Administration screen.

For **24 X 7 Schedule** options, shown in Figure 2–16:

a. Select the correct time zone from the **Time Zone** field.

The system will default to PDT if no option is selected.

b. Click the **Calendar** icon to select the **Begin Date**.

c. Click the **Clock** icon to select the **Begin Time**.

d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

Click **Cancel** to return to the Exception Administration screen.

8. Select how you want Notification of the Temp Status Exceptions sent to you. You may select more than one delivery option.

- Check the **Exception Console Delivery** check box if you want console notification.
- Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com

(i.e. 5551112222@page.nextel.com).

9. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

10. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

11. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

12. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–51.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

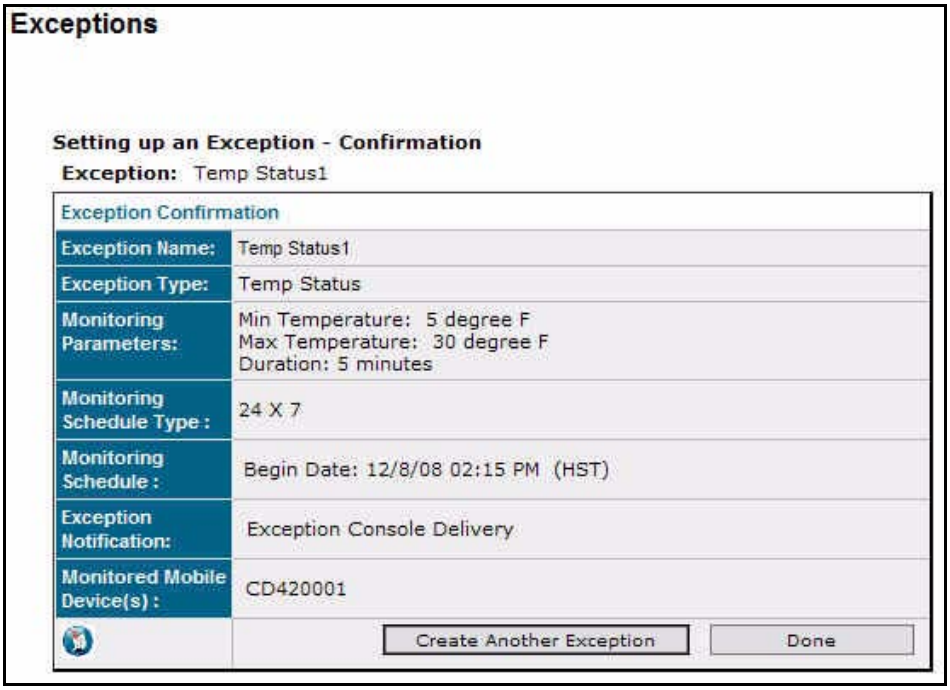


Figure 2–51 Confirmation Screen for Temp Status

13. Confirm the Temp Status Exception parameters that you selected.
14. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Zone

Zone Exceptions flag arrivals to and departures from multiple specified zones defined as Zip Code, City, County, State or Country. This can help monitor unauthorized (e.g. personal) use of company vehicles either during or after work hours, or flag possible security breaches when vehicles were not expected to move from a specific location.

Zone is available in real-time notification for GeoManager *i*LM and GeoManager PE and in standard notification for Pathway *i*LM.

From the **Setting up an Exception - Select the Exception Type** screen:

1. Click **Zone**. The **Setting up an Exception - Select the Exception Type/Parameters – Step 1 of 4** screen for Zone, shown in Figure 2–52, appears.

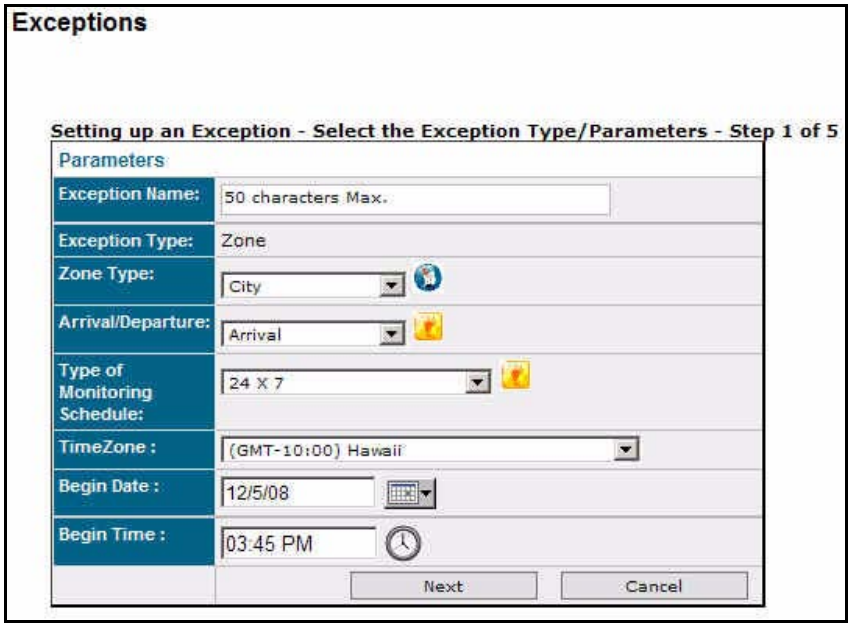


Figure 2–52 Select the Exception Type/Parameters for Zone - Step 1 of 5

Field	Description
Exception Name	This is the name that appears on the Exceptions Report. You may use up to 50 characters to create a unique name. Characters must be alpha-numeric. No symbols or punctuation is allowed.
Exception Type	This field is pre-filled from the Select Exceptions Type screen.
Zone Type	A specified area that makes up the zone. This can be a City, State, Zipcode, County, or Country.
Arrival/Departure	Drop-menu that allows you to select the mobile worker's arrival at, departure from or both from a Zone.
Type of Monitoring Schedule	Monitoring Schedules are available in two types: • Recurring – a specific schedule that happens on a repeated basis. This can be one of four predefined schedules or customized to your work day(s). • 24 X 7 – continuous monitoring of mobile workers.
TimeZone	The time zone where the mobile workers will be performing their tasks. You can select multiple time zones by holding down the [Ctrl] key.
Begin Date	The month, day and year you want to begin monitoring diagnostics faults for the selected mobile device. This can be today's date or a future date, but cannot be a previous date.
Begin Time	The time of day you want to begin monitoring diagnostics faults for the selected mobile device. This must be the current time or later. Minutes can be selected in 15 minute increments.

Note:

- This exception type is limited to the update interval of the mobile device.
- Each Zone Type is limited to a maximum of 10 mobile devices.

2. Type a name into the **Exception Name** field.
3. Select the Zone you want monitored from the **Zone Type** drop-menu.
4. Select type of monitoring you want from the **Arrival/Departure** field.
5. Select the schedule type you would like to establish for monitoring Idling Exceptions from the **Type of Monitoring Schedule** field:
   - Recurring
   - 24 X 7

   Each type of schedule has different set-up options which appear in the next screen.

6. Click **NEXT** to open the **Schedule Options** screen.
7. Set-up the options for your schedule.

   For predefined **Recurring Schedule** options, shown in Figure 2–15:

   a. Select one of the four options from the **Predefined Schedules** field:

      - Week Days
      - Week Nights
      - Weekends
      - Nights and Weekends

   b. Click the **Day** drop down menu in the **Begin Monitoring** column to change the day of the week, as needed.

   c. Click the **Clock** icon in the **Begin Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

   d. Click the **Day** drop down menu in the **End Monitoring** column to change the day of the week, as needed.

   e. Click the **Clock** icon in the **End Monitoring** column to change the daily time using the **Hou**r, **Min** and **AM/PM** fields as needed.

   f. To clear the selected options and re-enter information, click **Clear**.

   g. Click **Next** to advance to the next screen.

      Click **Previous** to return to the last screen.

      Click **Cancel** to return to the Exception Administration screen.

   For **24 X 7 Schedule** options, shown in Figure 2–16:

   a. Select the correct time zone from the **Time Zone** field.

      The system will default to PDT if no option is selected.

   b. Click the **Calendar** icon to select the **Begin Date**.

   c. Click the **Clock** icon to select the **Begin Time**.

   d. Click **NEXT** to advance to the **Specify the Exception Notification Options** screen, shown in Figure 2–17.

      Click **Cancel** to return to the Exception Administration screen.

8. Select how you want Notification of the Idling Exceptions sent to you. You may select more than one delivery option.

   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Real-Time message delivery** option if you want immediate notification.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

9. Click **Next** to advance to the **Specify Zones to Monitor** screen, shown in Figure 2–53.

Click **Previous** to return to the last screen.
Click **Cancel** to return to the **Exception Administration** screen.

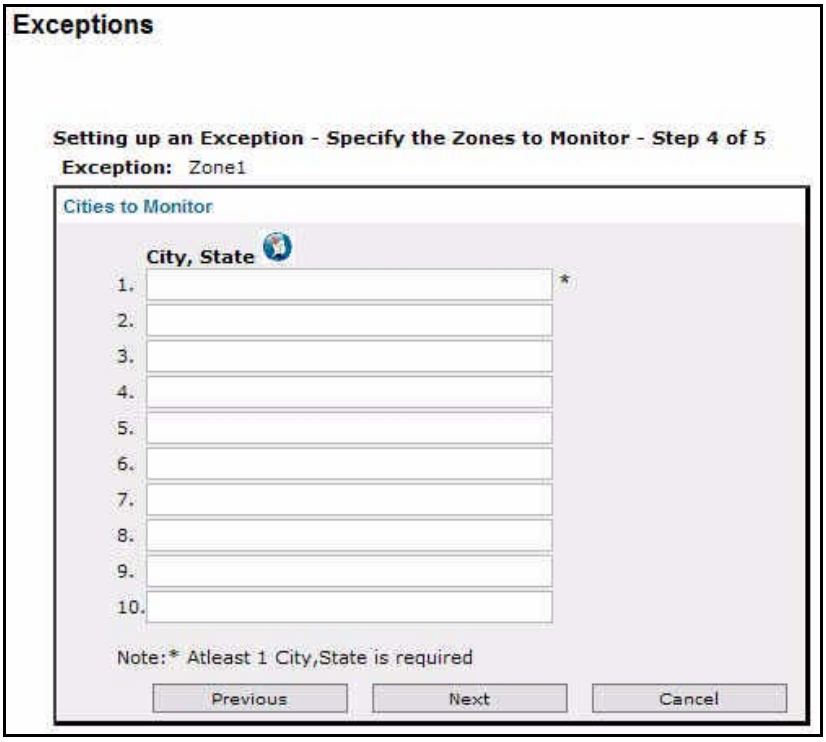


Figure 2–53 Setting up an Exception - Specify the Zones to Monitor - Step 4 of 5

10. Enter the information for the Zone you specified:

- City – enter the city name and state abbreviation. For example: Fremont, CA.
- State – enter the state abbreviation. For example: CA.
- Zip Code – enter the five digit zip code. At least one zip code is required.
- County – enter the county name and state abbreviation. For example: Alameda, CA.
- Country – select the country from the drop-menu. Defaults to USA.

11. Click **Next** to advance to the **Specify the Mobile Devices to Monitor** screen, shown in Figure 2–18.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

12. Select vehicles or hand-held devices to monitor:

    - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
    - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
    - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.

13. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

    Click **All>>** to add all devices from the **Available mobile devices** list.
    The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.

14. Click **Next** to advance to the **Confirmation** screen, shown in Figure 2–54.

    Click **Previous** to return to the last screen.
    Click **Cancel** to return to the **Exception Administration** screen.

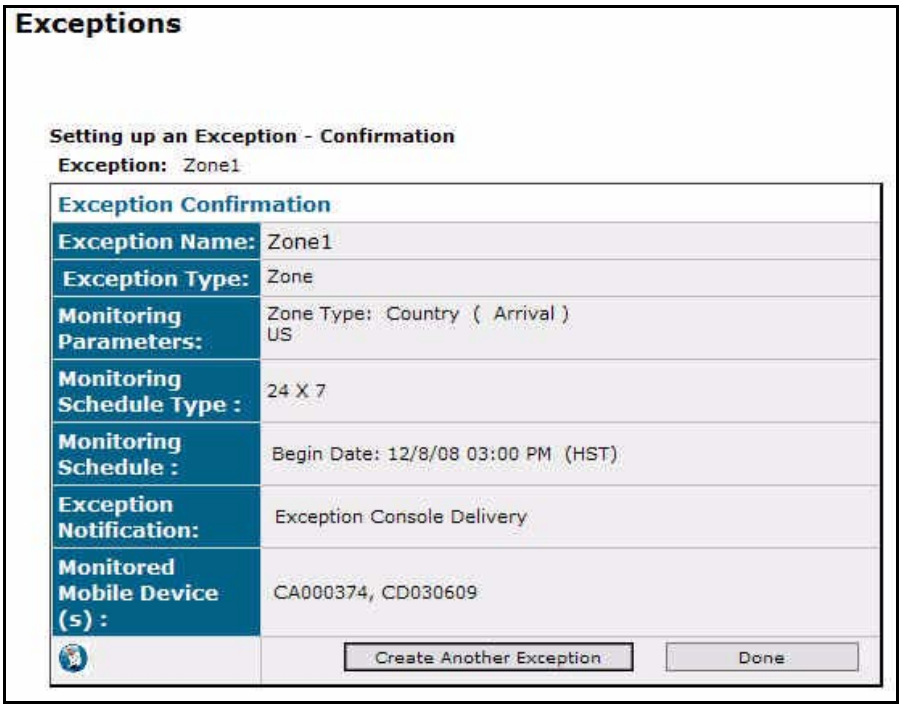


Figure 2–54 Confirmation Screen for Zone

15. Confirm the Zone Exception parameters that you selected.
16. Click **Done** if you are finished setting up Exceptions. The **Current Exceptions** screen appears.

Click **Create Another Exception** if you want to create other Exceptions. The **Select Exception Type** screen appears.

Vehicle Diagnostics

Exceptions generated for Vehicle Diagnostics (i.e. J1708) are triggered based on built in fault codes from the J1708 bus. This causes Vehicle Diagnostic Exceptions to be different for each type of vehicle, depending on the make, model and year. Each type of vehicle sends different pre-defined information, determined by the manufacturer and gathered from the vehicle's computer system(s).

GeoManager Vehicle Diagnostic Exceptions trigger when these pre-defined thresholds are exceeded. The following common types of Vehicle Diagnostic information may appear in your Vehicle Diagnostic Exceptions notifications and reports:

- **Diagnostic Fault Description** – Describes the vehicle malfunction, such as a cylinder misfire.
- **Engine Idle Time** – Records the time the engine is on but the vehicle is not moving.
- **Driving time** – The length of time spent driving.

- **Trip Duration** – Driving time plus engine idle time.
- **PTO Duration** – The length of time Power Take Off (PTO) occurred.
- **PTO Fuel** – The amount of fuel used for PTO.
- **Idle Fuel** – The amount of fuel used while the engine is idling.
- **Driving Fuel** – The amount of fuel used for driving.
- **Trip Fuel** – The amount of fuel used for idling, PTO, and driving.
- **Miles per gallon** – Number of miles a vehicle drives per gallon of fuel.
- **Deceleration per 100 miles** – Number of times the vehicle decelerates per 100 miles.
- **Acceleration per 100 miles** – Number of times the vehicle accelerates per 100 miles.
- **Brakes per 100 miles** – Number of times the brakes are applied per 100 miles.
- **Distance in top gear** – The distance the vehicle traveled in the top gear.
- **PTO distance** – The distance the vehicle traveled with the PTO switch engaged.
- **Trip distance** – Total distance traveled during the trip.
- **End odometer** – The odometer reading at the end of the trip.
- **Stop Count** – The number of times the vehicle stopped during the trip

Since the information for the Vehicle Diagnostic Exceptions is pre-determined when the iLM is installed in the vehicle, there is no customer configuration needed aside from assigning the notification delivery method.

To assign the notification delivery method to a vehicle diagnostics exception:

1. From the **Exception Administration** screen, select Diagnostics Fault, shown in Figure 2–55.

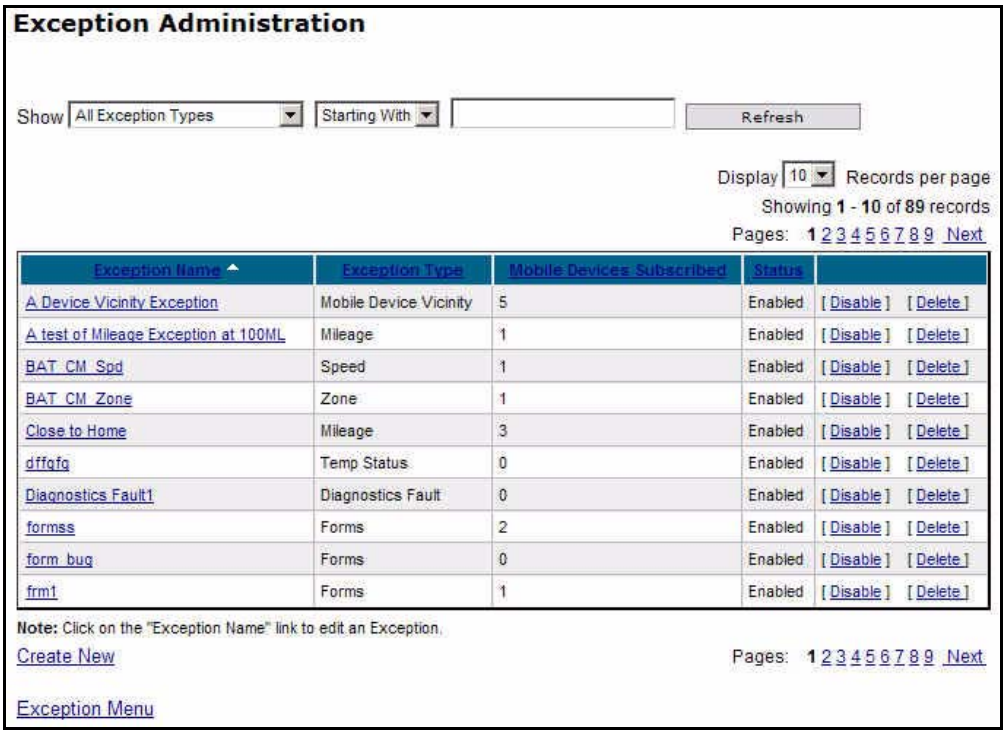


Figure 2–55 Exception Administration Screen

The Exceptions Management screen for Vehicle Diagnostics, shown in Figure 2–56, appears.

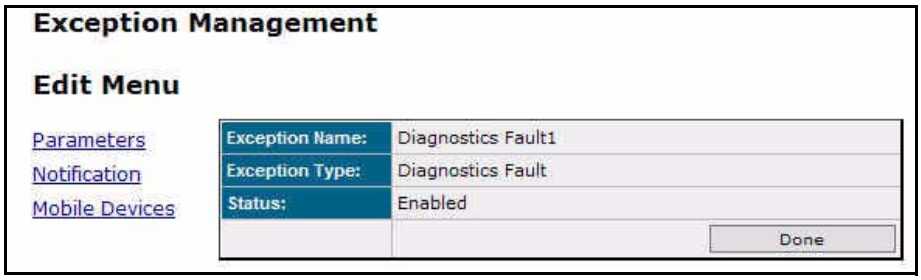


Figure 2–56 Edit Diagnostics Fault Exception

2. From the Edit Menu screen, select the Notification link. The Exception Notification screen, as shown in Figure 51, appears.

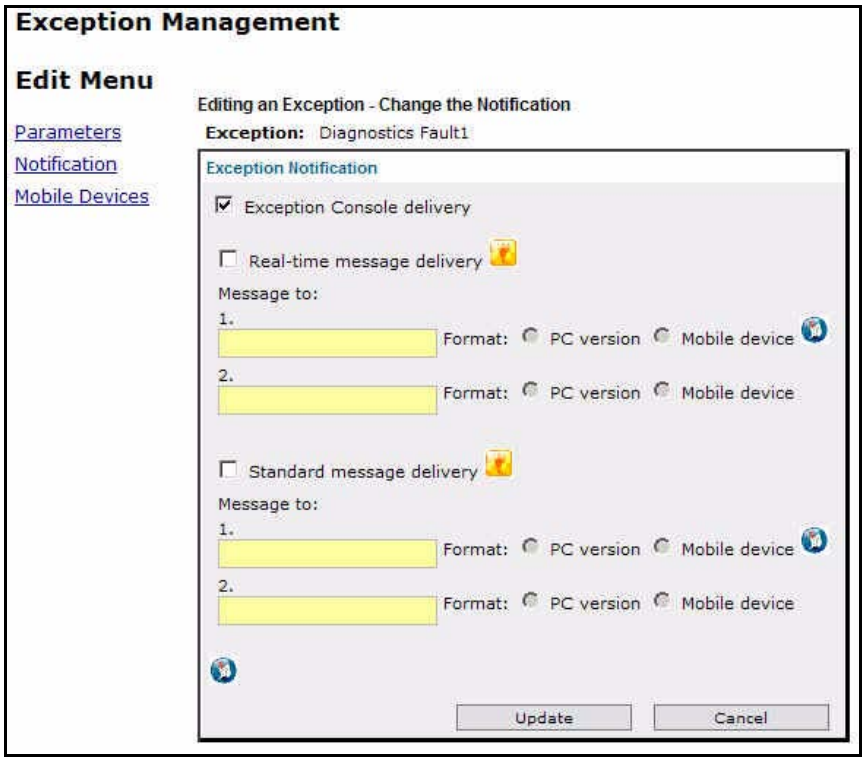


Figure 2–57 Edit Diagnostics Fault Exception

3. Select how you want Notification of the Diagnostics Fault Exceptions sent to you. You may select more than one delivery option.

   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Real-Time message delivery** option if you want immediate notification.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

   - Check the **Standard message delivery** option if you want a list of all the Speed Exceptions that occurred the previous day.

     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

4. Click **Update** to advance to the **Confirmation** screen, shown in Figure 2–58.

   Click **Cancel** to return to the **Exception Administration** screen.

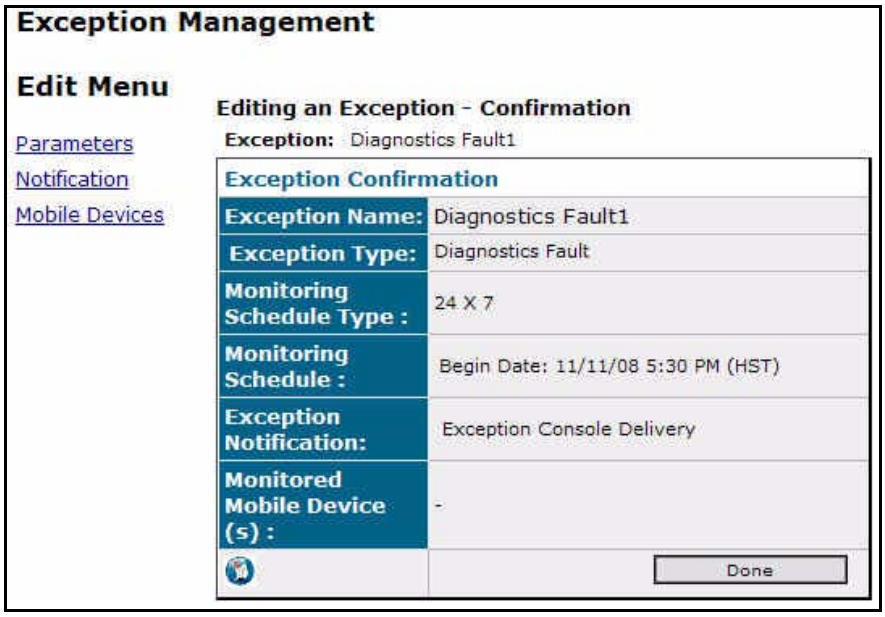


Figure 2–58 Edit Diagnostics Fault Exception

5. Confirm the Diagnostics Fault Exception Notification parameters that you selected.
6. Click **Done** to return to the Exceptions Management screen.
7. Click **Done** again to return to the Current Exceptions screen.

3 Editing Exceptions

You have the ability to change any parameters in effect for each Exception type, as well as:

- Disable
- Enable
- Delete

Before you can edit the parameters for any Exception, you must log into your Trimble Solution.

Note:
You will need an Administrator Password to access the Administration Control Panel. If you do not have an Administrator Password, contact Trimble MRM Customer Satisfaction at mrm-support@trimble.com.

To edit an Exception:

1. Log into your Trimble MRM Solution. For more information about logging in, see the beginning of Section 2, Creating Exception Parameters.
2. Click **Administration** from the **Control Panel** on the left side of the screen.
3. Click **Exception Administration**. The **Exception Administration Options** screen, shown in Figure 3–1, displays.

Figure 3–1 Exceptions Screen

4. Click **Exception Management**. The Exceptions Management screen, shown in Figure 3–2, appears.

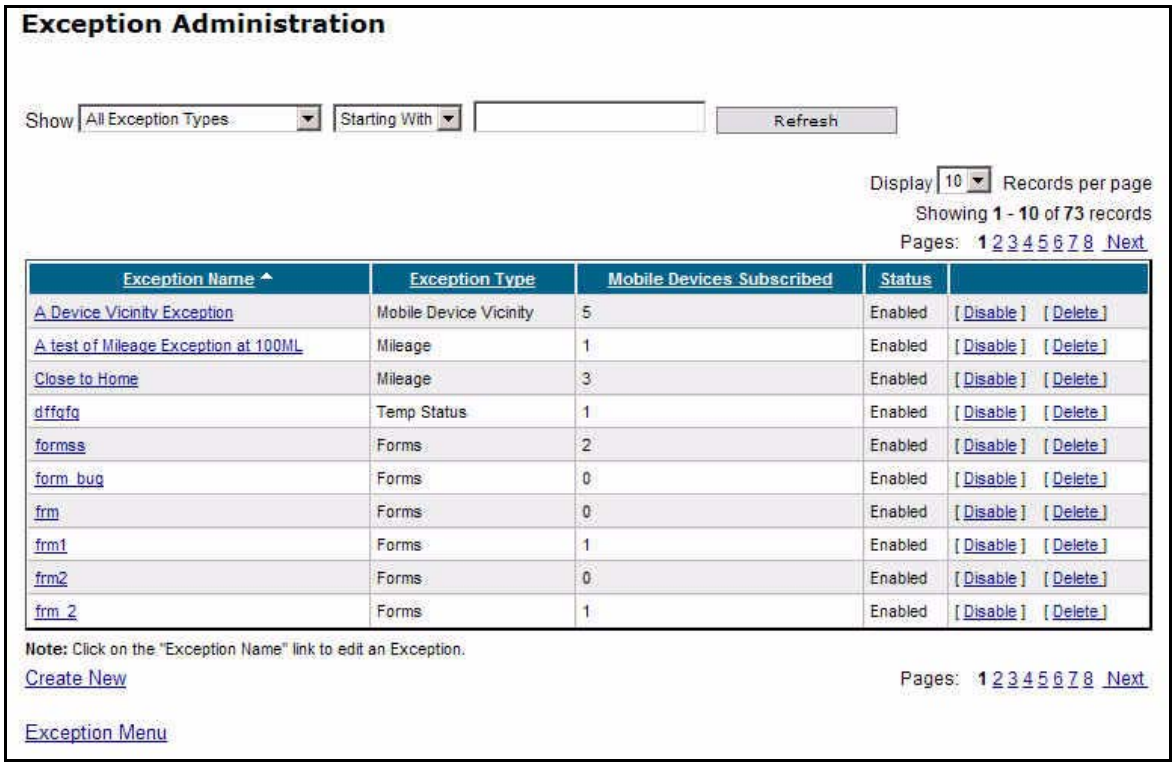


Figure 3–2 Exceptions Management Screen

Note:

If an Exception is disabled, you can enable or delete the exception. You must enable the exception before additional changes can be made.

5. Click the name of the Exception you would like to edit. The Exceptions Management Edit Menu, shown in Figure 54, appears.

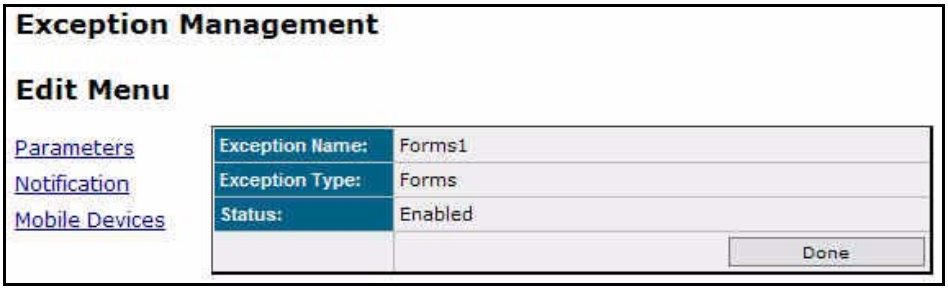


Figure 3–3 Edit Menu Screen

From the **Exceptions Management Edit Menu** screen you can edit the following:

- Parameters

- Notification
- Mobile Devices

Parameters

From the **Exceptions Management** screen:

1. Click **Parameters** located under the Edit Menu list. The **Change the Parameters** screen, an example of which is shown in Figure 3–4, appears. Each type of Exception may have different parameters.

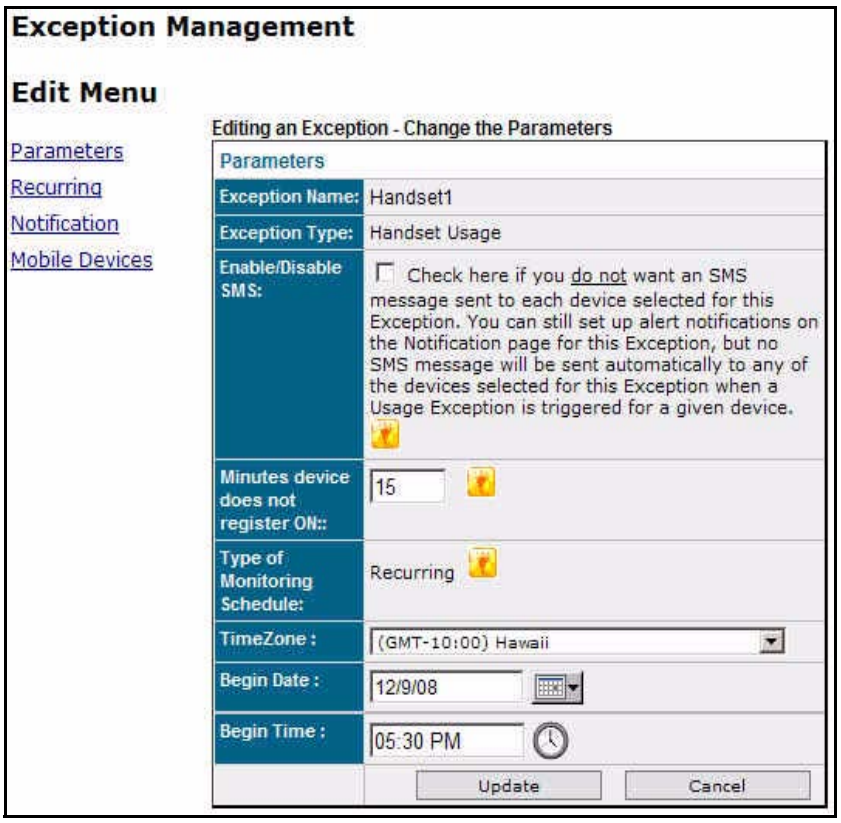


Figure 3–4 Change the Parameters Example Screen

2. Make the desired changes. Each type of Exception will have different parameters that can be changed. Some Exceptions have no parameters that can be changed.
3. Click **Update** to save the parameter changes.
4. Click **Cancel** to leave the current parameter settings.

   You will return to the **Exceptions Management** screen, shown in Figure 3–2.
5. Click **Done** if you are finished making changes. Click another link to make more changes to that Exception.

Click another link to make more changes to that Exception.

Schedule

From the **Exceptions Management** screen:

1. Click **Recurring** or **24 X 7,** located under the Edit Menu list to view the current schedule. The **Change the Schedule** screen, shown in Figure 3–5, appears.

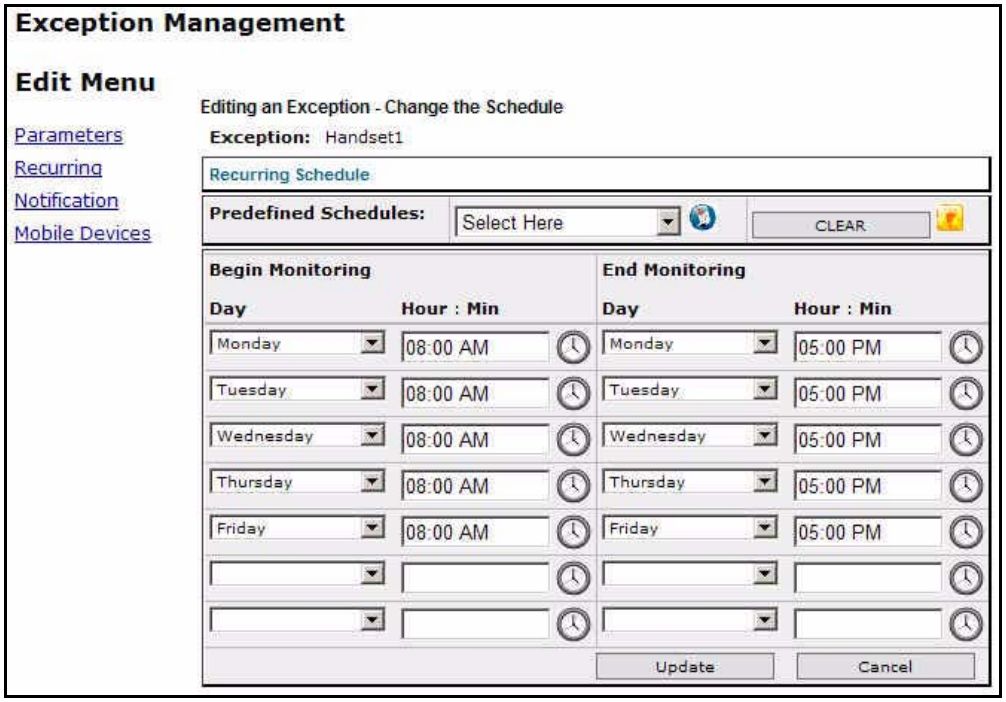


Figure 3–5 Edit the Schedule Example Screen

2. Make the desired changes. Each type of schedule has different schedules that can be changed.

Note:

The type of schedule cannot be changed for an Exception. The parameters within the schedule type can be changed.

3. Click **Update** to save the schedule changes.
4. Click **Cancel** to leave the current schedule settings.

   You will return to the **Exceptions Management** screen, shown in Figure 3–2.
5. Click **Done** if you are finished making changes.

6. Click **Done** again to return to the **Exceptions Management** screen.

Click another link to make more changes to that Exception.

Notification

From the **Exceptions Management** screen:

1. Click **Notification**, located under the Edit Menu list to view the current schedule. The **Change the Notification** screen, shown in Figure 3–6, appears.

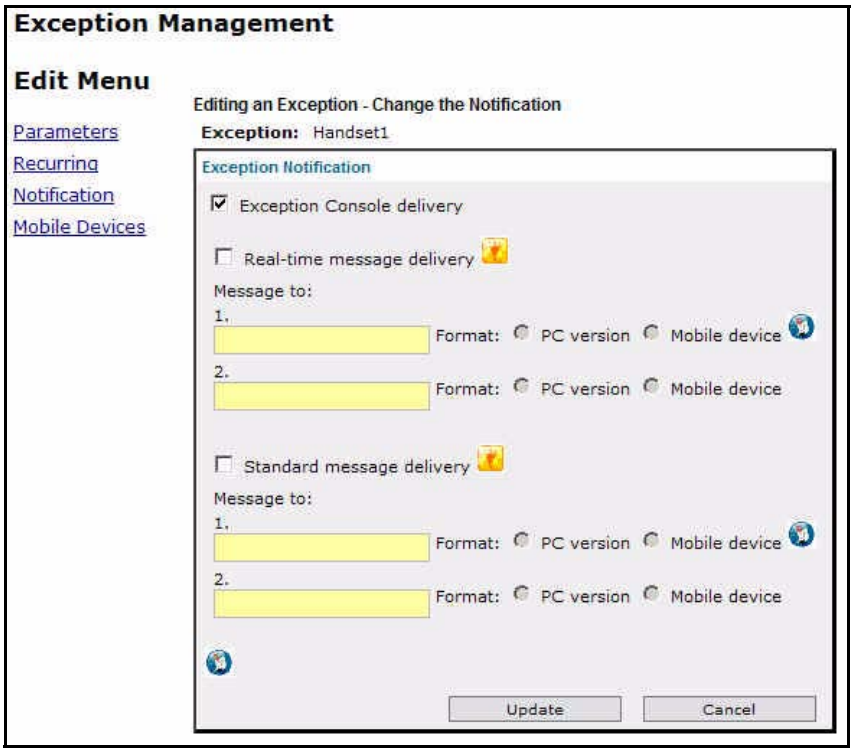


Figure 3–6 Edit the Notification Example Screen

2. Make the desired changes.
   - Check the **Exception Console Delivery** check box if you want console notification.
   - Check the **Real-Time message delivery** option if you want immediate notification.
     a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.
     b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

        To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

- Check the **Standard message delivery** option if you want a list of all the Forms Exceptions that occurred the previous day.

  a. Enter up to two email or mobile devices, one for each of the **1.** and **2.** fields.

  b. Select the radio button for the format of the device address: **PC format** or **mobile device**.

     To send messages to mobile devices, use the format {phonenumber}@page.nextel.com (i.e. 5551112222@page.nextel.com).

3. Click **Update** to save the parameter changes.
4. Click **Cancel** to leave the current parameter settings.

   You will return to the **Exceptions Management** screen, shown in Figure 3–2.

5. Click **Done** if you are finished making changes. Click another link to make more changes to that Exception.

Mobile Devices

From the **Exceptions Management** screen:

1. Click **Mobile Devices**, located under the Edit Menu list to view the current schedule. The **Change the Mobile Devices** screen, shown in Figure 3–6, appears.

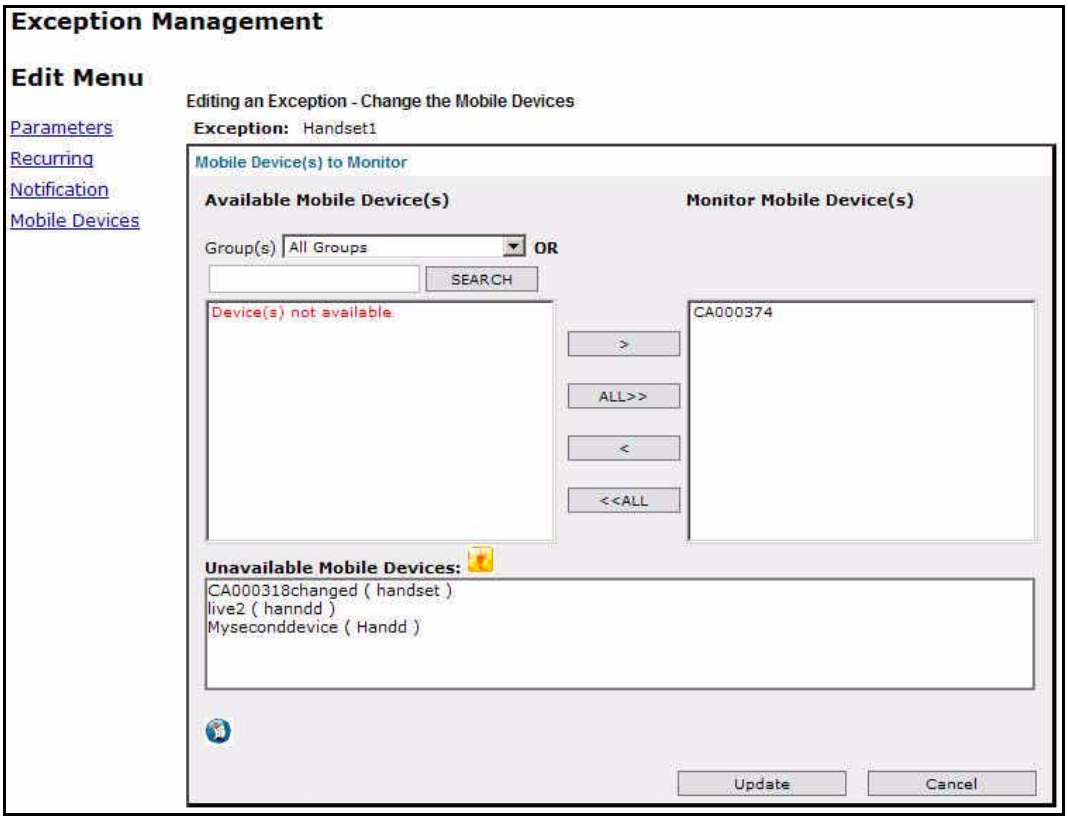


Figure 3–7 Edit the Mobile Devices Example Screen

2. Make the desired changes.
3. Select vehicles or hand-held devices to monitor:
   - Select the vehicle group, if applicable, from the **Group** drop-menu, then click **Search**. For more information about Groups, see the *GeoManager Admin User Manual*.
   - If you want to search for a specific device, enter the search criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
   - Select the vehicle(s) you would like to monitor from the **Available mobile devices** list. To select more than one vehicle, hold down the [Ctrl] key while selecting.
4. Click the **>** button to add the selected devices to the **Monitor mobile devices** list.

   Click **All>>** to add all devices from the **Available mobile devices** list.

   The name(s) you have selected will move to the **Monitor Mobile Devices** field indicating they have been selected.
5. Click **Update** to save the mobile device changes.
6. Click **Cancel** to leave the current parameter settings.

   You will return to the **Exceptions Management** screen, shown in Figure 3–2.

7. Click **Done** if you are finished making changes. Click another link to make more changes to that Exception.

Enable

This allows you to reactivate a disabled Exception.

- All previous parameters are reinstated as created.
- Users have full access to information generated with this Exception.
- Remains active until it is disabled.

From the **Exception Administration** screen, click **Enable** for the exception you would like to enable. The Exceptions Management screen changes to show the Exception is enabled.

Note:
You can only enable an Exception that was previously disabled. Otherwise the Enable option is not available.

Disable

This allows you to temporarily remove an active Exception from use.

- All parameters are preserved.
- Users cannot access/receive data from this Exception.
- Remains inactive until it is enabled.

From the **Exception Administration** screen:

1. Click **Disable** from the **Edit Menu** list. A dialog box, shown in Figure 3–8, appears to verify disabling the Exception.
2. Click **OK** to disable the Exception.

Figure 3–8 Dialog Box

The **Exception Administration** screen changes to show that the Exception is disabled.

Delete

This allows you to completely remove an Exception from your system.

- An Exception is permanently deleted from your system.
- Parameters established for this Exception are lost and cannot be retrieved for later use.

From the **Exceptions Management** screen:

1. Click **Delete** from the **Edit Menu** list. A dialog box, appears to verify deleting the Exception.
2. Click **OK** to delete the Exception.

Figure 3–9 Delete Dialog Box

When the Trimble MRM solution is finished deleting the Exception, the current Exceptions screen will appear.

Assigning Exceptions to Mobile Devices or Groups

If you would like to change several vehicle assignments for more than one Exception, you can easily do this by accessing Assigning Exceptions to Mobile Devices in Exception Administration.

Note:

The Group option will only appear if your company has subscribed to this feature. If you would like to add this capability to your system, please contact your Trimble MRM sales manager.

From the **Exceptions** screen, shown in Figure 3–1:

1. Select **Batch Exception Assignment**. The **Assigning Exceptions to Mobile Devices or Groups** screen, shown in Figure 3–10, appears.

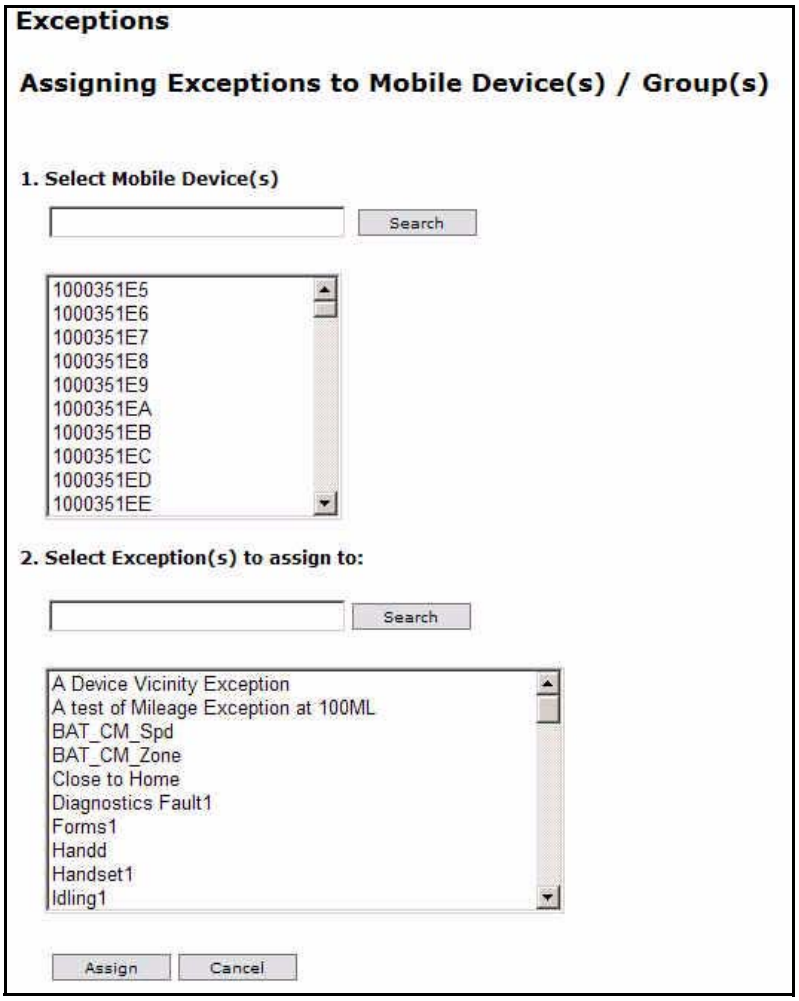


Figure 3–10 Assigning Exceptions to Mobile Devices or Groups Screen

2. Highlight the mobile devices from the **Select mobile devices / Groups** field:
   - If you want to search for a specific device, enter the criteria into the **Search** field, then click **Search**. Matching devices appear in the **Available mobile devices** list.
   - To select more than one vehicle or group, hold the [Ctrl] key while selecting.
3. Select Exceptions to assign from the **Select the Exception(s)** field.
   - If you want to search for a specific Exception, enter the criteria into the **Search** field, then click **Search**. Matching Exceptions appear in the **Select the Exceptions** list.
   - To select more than one Exception, hold the [Ctrl] key while selecting.
4. Click **Assign** to record the changes you made.

   Click **Cancel** to exit without making the requested changes.

4 Exception Reports

Exceptions data can be viewed in several ways, through Exception Parameter Reports, the Exception Notification Console and by creating Exception Reports for specific Exceptions or a Consolidated Exception Report.

Exceptions Parameter Report

The Exceptions Parameter Report shows current Exceptions and their corresponding vehicle assignments for your company. It may be downloaded as a tab-delimited, comma-delimited or Excel report, or generated for online viewing

To create and view an Exceptions Parameter Report, you must first log into your GeoManager solution:

1. Log into your GeoManager Solution. For more information about logging in, see the beginning of Section 2, Creating Exception Parameters.
2. Click **Administration** from the **Control Panel** on the left side of the screen.
3. Click **Exception Administration**. The **Exception Administration Options** screen, shown in Figure 3–1, displays.
4. Select **View Exceptions Parameter Report** from the **Main Menu** drop-menu. An Exceptions screen, shown in Figure 4–1, with selection options for generating the report appears.

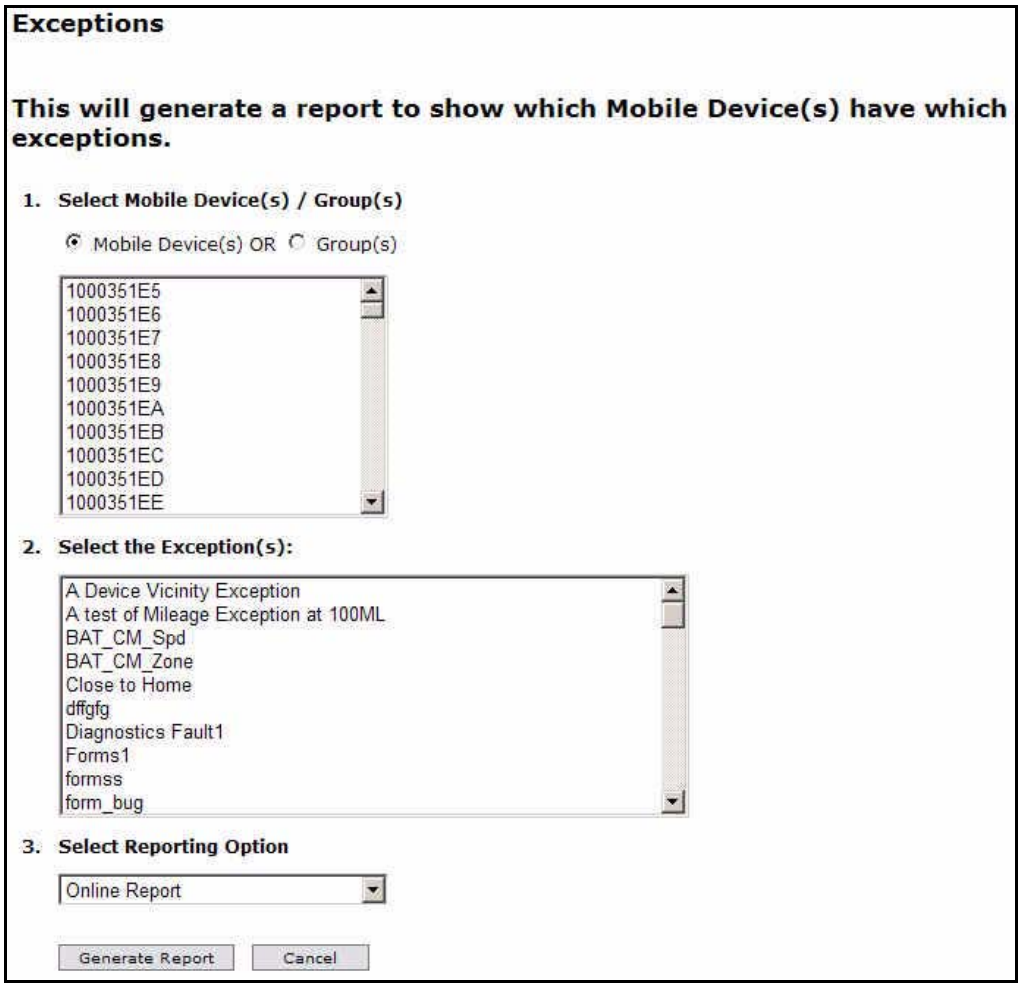
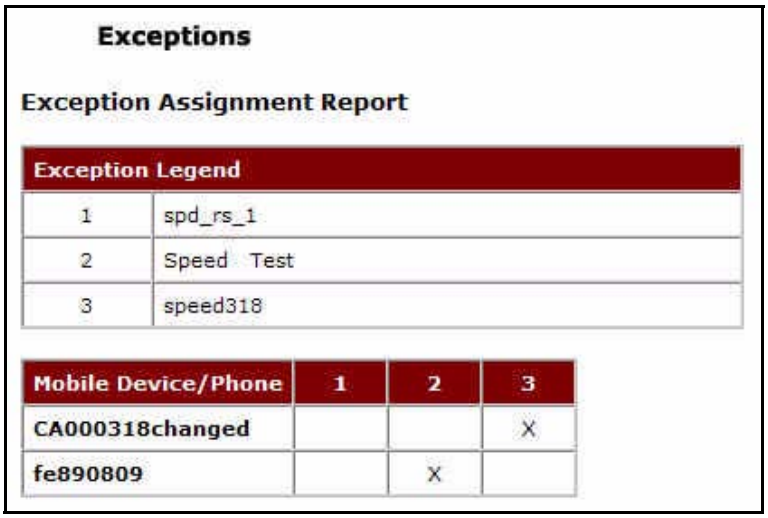


Figure 4–1: Select Options for Generating an Exception Assignment Report

5. Select the appropriate radio button:
   - If you select **Groups** a list of the available Groups appears.
   - If you select **Mobile Devices** a list of the available vehicles appears.
   - To select more than one vehicle or group, hold the [Ctrl] key while selecting.
6. Highlight the mobile devices from the **Select Mobile Devices / Groups** field.
7. Select Exceptions to assign from the **Select the Exception(s)** field.
   - If you want to search for a specific Exception, enter the criteria into the **Search** field, then click **Search**. Matching Exceptions appear in the Select the Exceptions list.
   - To select more than one Exception, hold the [Ctrl] key while selecting.
8. Select the way you want to view the report from the **Select Reporting Option** drop-down menu.
9. Click **Generate Report** to generate the report.

If you chose to view the report online, a new browser window opens with the Exception Assignment Report, Figure 4–2.



Exceptions

Exception Assignment Report

Exception Legend	
1	spd_rs_1
2	Speed Test
3	speed318

Mobile Device/Phone	1	2	3
CA000318changed			X
fe890809		X	

Figure 4–2: Online Exception Assignment Report

If you chose to download the Exception Assignment Report, a download dialog box, Figure 4–3, appears.

Figure 4–3: File Download Dialog Box

10. Click **Open** to open the file in a default application.

    Click **Save** to save the file to your computer.

    Click **Cancel** to return to the Select Options for the Exception Assignment Report screen.

Exception Notification Console

The Exception Notification Console is a browser-based tool that allows you to easily view, sort and manage alerts online. This provides a timely way to learn about Exceptions created by your mobile workers if real-time notifications are not available or enabled for an Exception.

Online Console Notifications are delivered real-time or next day based on how the Exception was configured. Real-time Exception Notifications are immediately sent to the console, if console delivery was selected. Standard Exception Notifications are sent to the Console the following day.

To view the Exception Notification Console:

1. Log into your Trimble MRM Solution. For more information about logging in, see the beginning of Section 2, Creating Exception Parameters.
2. From the GeoManager home page, click **Exceptions** under the **Control Panel** on the left of the home page. The **Exception Notification Console**, Figure 4–4, opens.

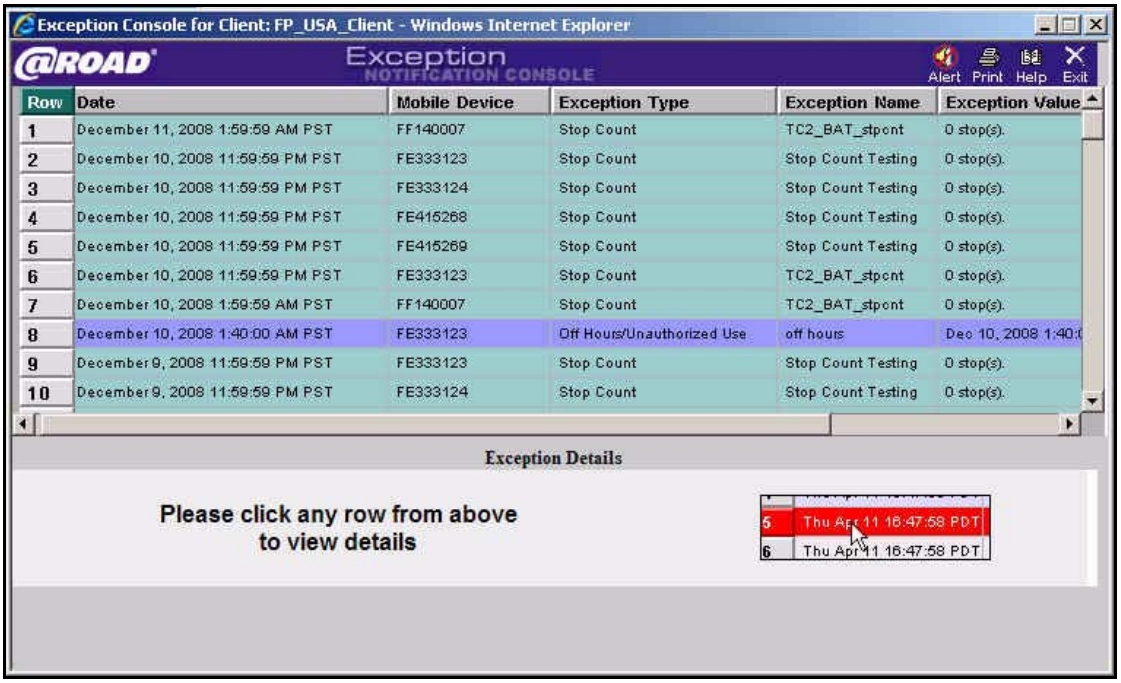


Figure 4–4: Exceptions Notification Console

Field	Description
Row	Delineates the order Exceptions were received, with the most recent appearing in row 1.
Date	Date and time the Exception occurred.
Mobile Device	The name of the mobile device that incurred the Exception.
Exception Type	General Exception type.
Exception Name	Specific Exception based upon custom parameters.
Exception Value	Details that indicate why Exception was triggered.

You can sort Exceptions shown in the Exceptions Notification Console by any of the column headers. To sort data, click on the column heading you want as your sort filter.

You may rearrange the order in which Exception data columns appear online. To change the order of your columns, click on the column header you want to move and drag it to the spot on the table in which you would like it to appear.

Message Types are color coded to make identification of like Exceptions easy to find and read.

If you set up real-time alerts, you can elect to receive an audible alert each time a new notification is sent to the Notification Console. To enable or disable this option, click the alert icon. When it is disabled, the icon will appear with a red slash across it.

For additional details on any of the alerts:

1. Scroll to the alert you want to select.
2. Click the alert anywhere on the row.

Details appear in the **Exception Details** area at the bottom of the Exception Notification Console.

The Notification Console highlights your selection and additionally shows the **Criteria** that had to be met to generate the Exception as well as the **Location** of the mobile device when the Exception occurred.

To generate a printable version of this information, press the print icon in the upper right-hand corner of the screen. The system will display the same information in a text format that can be easily printed.

Click the **Printer** icon. The **Exception Details** screen displays. From here you can print two ways:

- Click the **Print** link in the **Details** column of the **Exception Detail** screen. This will print the details for that specific Exception.

- Click the **Print Summary** button in the top right corner. This opens the Print dialog box.

  Click **Print** to print the Exception Summary.

  Click **Cancel** to close the dialog without printing.

Generating Exception Reports

Exception Reports may be generated at any time. Steps for creating reports for all of the Exceptions are virtually the same. Below are steps for generating each report format:

1. Click the Reports link from the Control Panel on the left. The Reports screen, shown in Figure 1–165, opens.

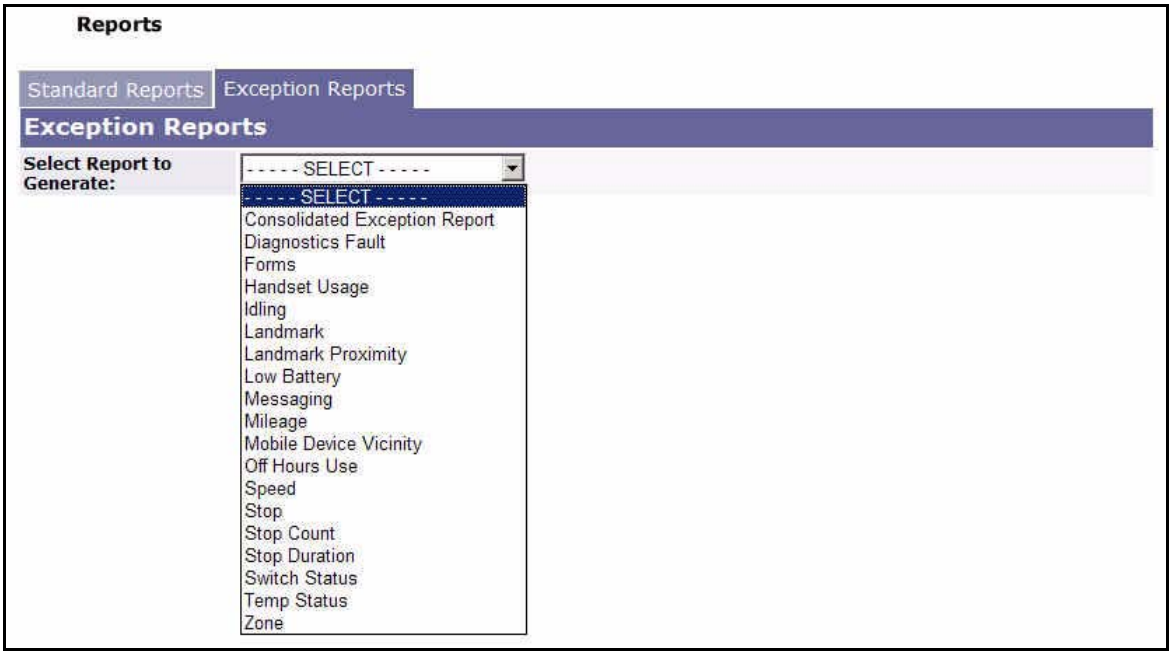


Figure 4–5: Reports Screen

2. Click the Exceptions Reports tab.
3. Select the type of Exception report to generate from the Select Report to Generate drop-menu.

   - If you select Consolidated Exception Report, the Exception Report Options screen, shown in Figure 1–166, appears:

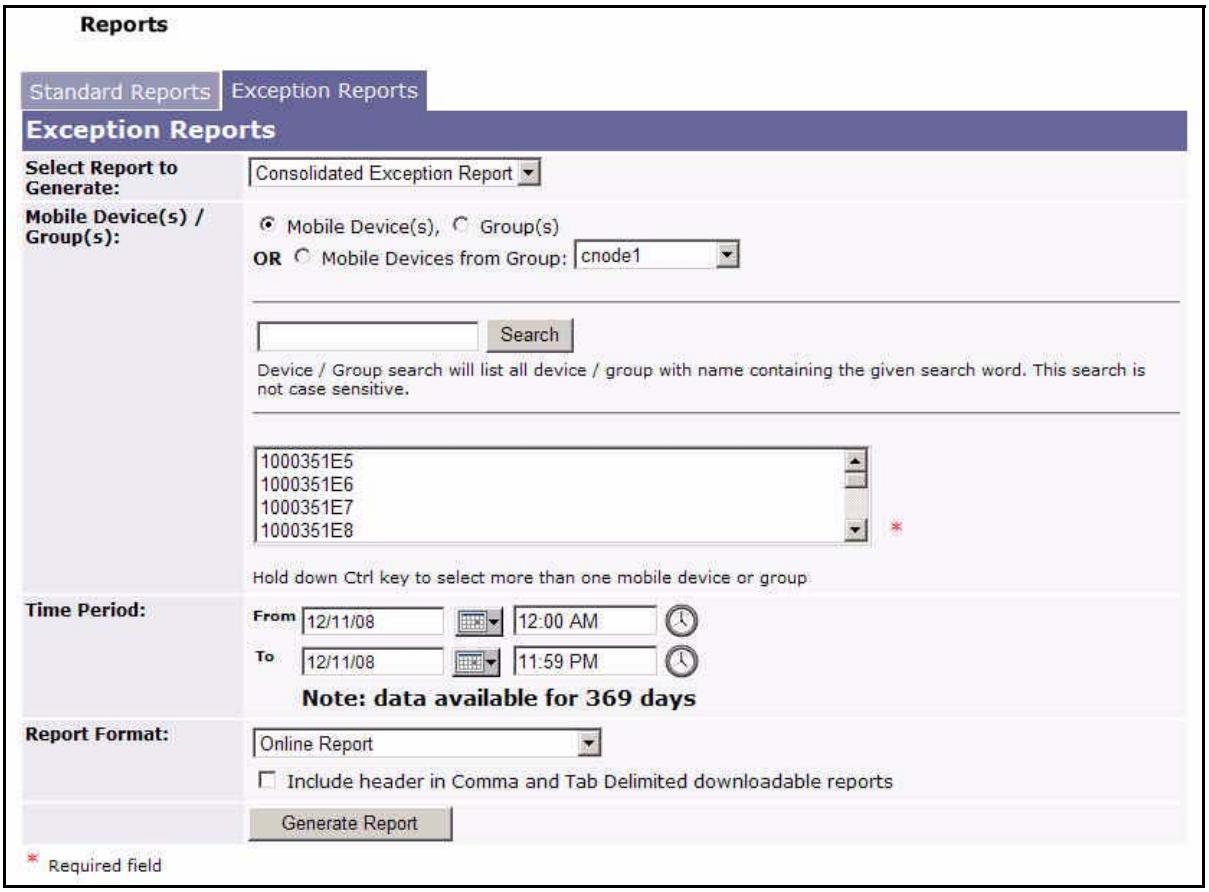


Figure 4–6: Consolidated Exception Reports Screen

Field	Description
Select Report to Generate	This is filled in from the previous screen and shows Consolidated Exception report.
Mobile Device(s) / Group(s)	Combination of radio buttons, drop-menu and text box for organization of mobile devices available for reporting. One radio button must be selected. One or more mobile devices or groups listed must be selected.
Time Period	The length of time you want the report to contain. This is limited to: • **GeoManager** – An online report can contain one month or less of data. If you want to generate a report containing more than one month of data, then you must use the Scheduled Reports Tool. For more information about Scheduled Reports, see the GeoManager Administrator Guide. • **Pathway** – An online report can contain 14 days worth of data. Pathway does not have Scheduled Reports.

Field	Description
Report Format	Shows you the available formats for the Exception Reports. Currently: • Online • Downloadable Format (Tab delimited) • Downloadable Format (Comma delimited) • Downloadable Format (Excel version)
Check Box	Select if you want to include the header in Comma and Tab delimited downloadable reports.

a. Select the radio button for mobile devices, Groups or mobile devices from Group.

b. If you select mobile devices from Group, select the Group from the drop-menu.

c. Select the mobile devices for the report from the text box. Hold down Ctrl key to select more than one mobile device or group.

d. Select the Time Period from the From and To Day, Month, Year, Hour and Min drop-menus.

e. Select the Report Format from the drop-menu.

f. If you choose to download the Exception Assignment Report select the check box to Include header in Comma and Tab Delimited downloadable reports if you want headers included in the report.

g. Click Generate Report.

- If you chose to view the report online, a new browser window opens with the Consolidated Exception Report, as shown in Figure 1–167.

Exceptions

Consolidated Exception Report from 10/28/08 12:00 AM to 10/31/08 11:59 PM

*(Note: **Date/Time** is rounded off to the nearest minute)*

Phone : CA000318changed

Date	Time	Exception Name	Exception Type	Exception Details
10/28/08	9:08 AM(PDT)	land prox test 2	Landmark Proximity	Departure (palo) MONROE DR, PALO ALTO, CA 94306
10/28/08	9:32 AM(PDT)	land prox test 2	Landmark Proximity	Arrival (office) BAYSIDE PKY, FREMONT, CA 94538
10/28/08	9:51 AM(PDT)	Stop_duration	Stop Duration	15 min. BAYSIDE PKY, FREMONT, CA 94538
10/28/08	1:45 PM(PDT)	lowbat	Low Battery	Status: Battery Low GATEWAY BLVD, FREMONT, CA 94538
10/29/08	5:00 PM(PDT)	handset	Handset Usage	Status: Logout BAYSIDE PKY, FREMONT, CA 94538
10/29/08	11:59 PM(PDT)	Stop_us	Stop	405 min.
10/30/08	11:43 AM(PDT)	lowbat	Low Battery	Status: Battery Low BAYSIDE PKY, FREMONT, CA 94538
10/30/08	11:59 PM(PDT)	Stop_us	Stop	662 min.
10/31/08	12:53 PM(PDT)	lowbat	Low Battery	Status: Battery Low BAYSIDE PKY, FREMONT, CA 94538

Figure 4–7: Online Consolidated Exception Report

- If you chose to download the Consolidated Exception Report, a download dialog box, Figure 4–8, appears.

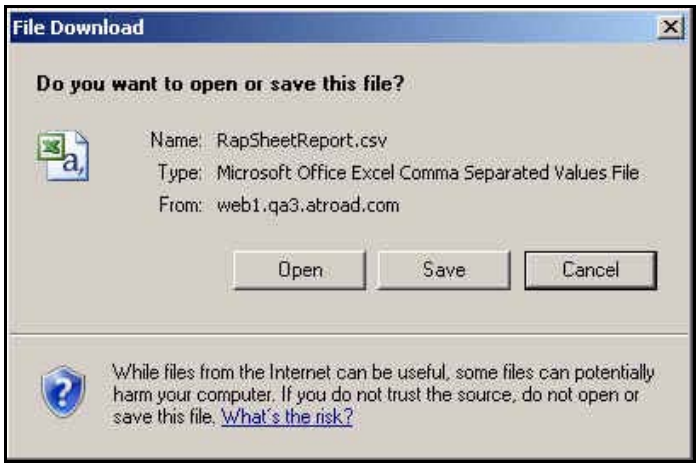


Figure 4–8: File Download Dialog Box

h. Click **Open** to open the file in a default application.

Click **Save** to save the file to your computer.

Click **Cancel** to return to the **Exception Reports Options** screen.

- If you select any other individual Exception Report, the Exception Report Options screen, shown in Figure 1–169, appears:

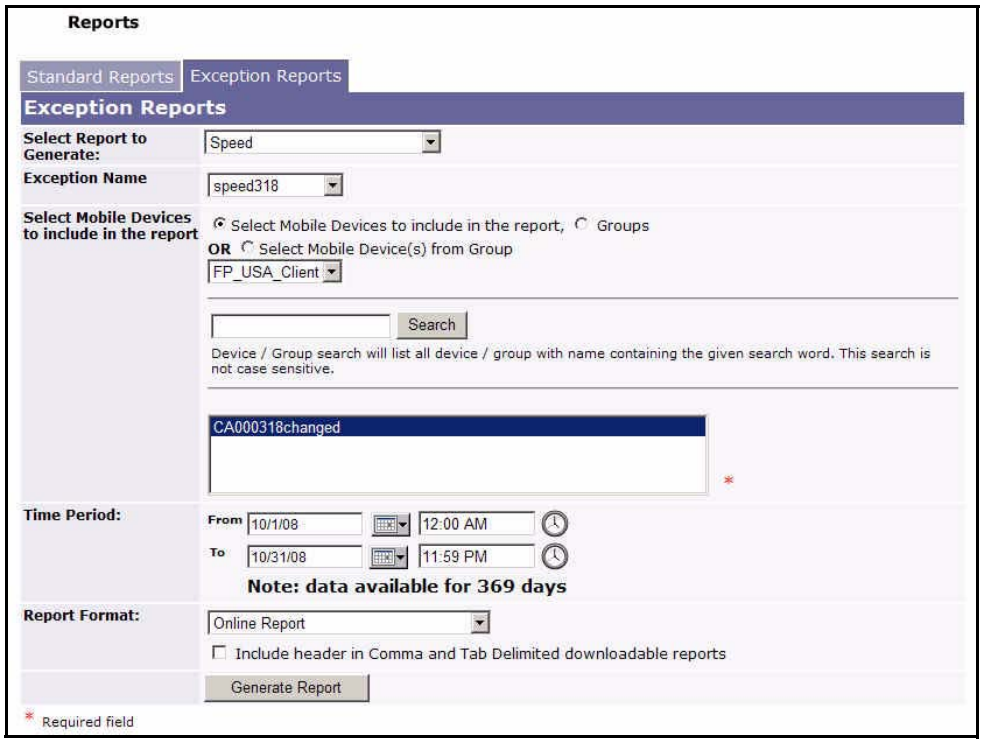


Figure 4–9: Individual Exception Report Options

Field	Description
Select Report to Generate	This is filled in from the previous screen and shows Consolidated Exception report.
Exception Name	Contains a list of all the Exceptions available for report creation.
Select Mobile Device(s) to Include in the Report	Combination of radio buttons, drop-down menus and text box for organization of mobile devices available for reporting. One radio button must be selected. One or more mobile devices or groups listed must be selected.
Time Period	The length of time you want the report to contain. This is limited to: • **GeoManager** – An online report can contain one month or less of data. If you want to generate a report containing more than one month of data, then you must use the Scheduled Reports Tool. For more information about Scheduled Reports, see the GeoManager Administrator Guide. • **Pathway** – An online report can contain 14 days worth of data. Pathway does not have Scheduled Reports.

Field	Description
Report Format	Shows you the available formats for the Exception Reports. Currently: • Online • Downloadable Format (Tab delimited) • Downloadable Format (Comma delimited) • Downloadable Format (Excel version)
Check Box	Select if you want to include the header in Comma and Tab delimited downloadable reports.

a. Select Exception Name from the drop-menu.

b. Select the radio button for mobile devices, Groups or mobile devices from Group.

c. If you select mobile devices from Group, select the Group from the drop-menu.

d. Select the mobile devices for the report from the text box. Hold down [Ctrl] key to select more than one mobile device or group.

e. Select the Time Period from the From and To Day, Month, Year, Hour and Min drop-menus.

f. Select the Report Format from the drop-menu.

g. If you choose to download the Exception Assignment Report select the check box to Include header in Comma and Tab Delimited downloadable reports if you want headers included in the report.

h. Click Generate Report.

- If you chose to view the report online, a new browser window opens with the Exception Report, as shown in Figure 1–170.

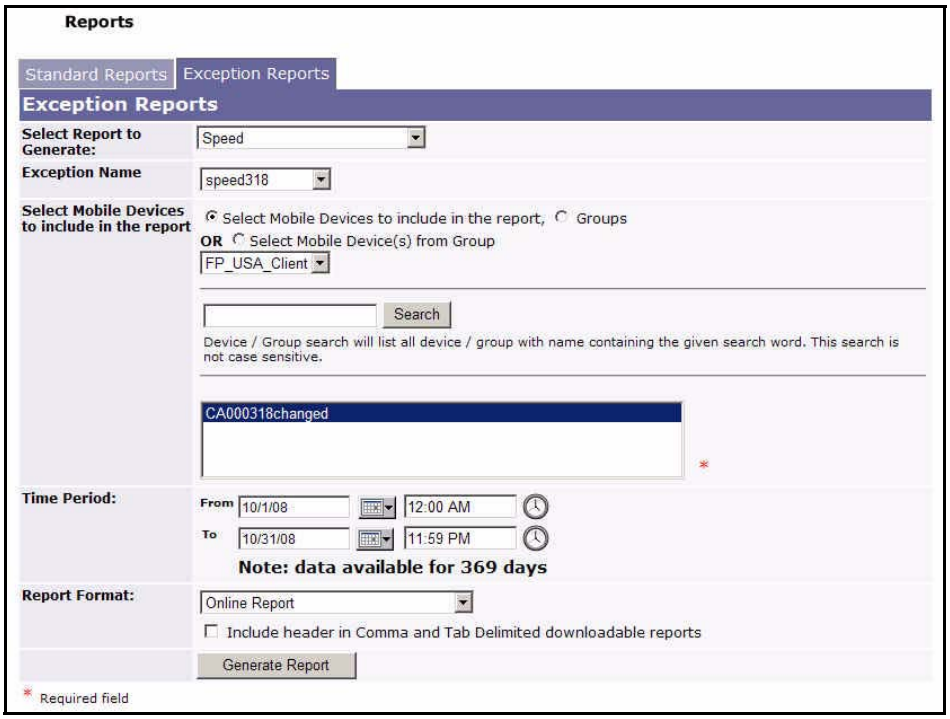


Figure 4–10: Online Exception Report

- If you chose to download the Exception Report, a download dialog box, as shown in Figure 1–271, appears.

Figure 4–11: File Download Dialog Box

i. Click **Open** to open the file in a default application.

Click **Save** to save the file to your computer.

Click **Cancel** to return to the **Exception Reports Options** screen.

Glossary

affiliate

Companies who work with larger carriers to build a nationwide network. Affiliates may use the larger carrier's brand name, network operations, customer service or other resources.

antenna

A device for transmitting and receiving signals. Often camouflaged on existing buildings, trees, water towers or other tall structures, the size and shape of antennas are generally determined by the frequency of the signal they manage.

AP

Access point is a WLAN transceiver or "base station" that can connect a network to one or many wireless devices. APs can also bridge to one another.

carrier

Also known as service provider or operator, a carrier is the communications company that provides customers with air time and other services for their wireless phones.

channel

A path along which a communications signal is transmitted.

FSM

Field Service Management is the process of managing mobile resources to improve the performance of tasks in the field. FSM includes scheduling, dispatching and Intelligent Appointing, as reflected in the Trimble Taskforce solution.

GPS

Global Positioning System is a worldwide satellite navigational system, made up of 24 satellites orbiting the earth and their receivers on the earth's surface. The GPS satellites continuously transmit digital radio signals so that up-to-the-minute information may be used in location tracking, navigation and other location or mapping technologies.

***i*LM™**

Internet Location Manager is a patented Trimble in-vehicle mobile resource management device using GPS and wireless network communications technologies. The Trimble *i*LM captures location-based information in the field and securely transmits it over high-speed wireless

networks to Trimble subscribers. This data shows up in the form of on-demand, exception or scheduled web-based reports that reflect information such as mobile worker location, vehicle speed, starts and stops on customizable maps.

IP

Internet Protocol sends data packets, called data-grams, across multiple networks, but does not ensure that they arrive at their destination reliably (TCP ensures reliable delivery). Each IP datagram has a header containing source and destination information, allowing each datagram to travel independently to its destination directly or through gateways, with each datagram perhaps traveling a different route to reach its destination.

IP address

Also called "Internet address." The 32-bit address assigned to hosts using TCP/IP. Most Internet addresses consist of a network portion and a node portion. The address for each device must be unique on the network.

LAN

Local Area Network is a small data network covering a limited area, such as a building or group of buildings. Most LANs connect workstations or personal computers, allowing many users to share devices such as laser printers, as well as data. A LAN also allows easy communication by facilitating e-mail or supporting chat sessions.

Landmarks

The GeoManager Landmarks feature—available with all Trimble MRM Fleet Productivity & Management solutions—is an enhanced scheduling and reporting tool that enables you to define and post special destinations and locations in the Trimble customized mapping database, then view them conveniently on a map in relation to current field asset locations. Landmarks feature option is an excellent tool for administrators looking to streamline their vehicle routing process while reducing wasted time, fuel costs and other expenses.

MRM

Mobile Resource Management is a category of business solutions designed to maximize the productivity of mobile work forces. The most effective MRM solutions—such as those offered by Trimble MRM—combine Internet services with applications that leverage on-demand GPS, wireless capabilities and transaction processes to help companies reduce operating costs and raise the quality of customer experience.

Wi-Fi

Wireless fidelity is the generic term for 802.11 technology.

WLAN

Wireless Local Area Networks use radio waves instead of a cable to connect a user device, such as a laptop computer, to a LAN. They provide Ethernet connections over the air and operate under the 802.11 family of specifications developed by the IEEE.

wireless

General term for using radio-frequency spectrum for transmitting and receiving voice, data and video communications.

wireless Internet

A general term for using wireless services to access the Internet, e-mail and/or the web.

wireless IT

Wireless Information Technology is the monitoring, managing and troubleshooting of computer equipment throughout a wireless network.