PVRM Quick Reference Guide

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Powerful Tools for Better Performance

SOFTROL

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Introduction

Congratulations! The technicians have completed the installation of the PulseNet Virtual Rail Module (PVRM). The new system is ready to assist you in tracking, managing, measuring, and monitoring your soil storage system. Although you can access the complete user manual and other support documents through the Softrol corporate site, this guide provides quick access to:

- System Overview
- Completing common tasks,
- Accessing reports and system monitoring,
- Diagnostics and troubleshooting,
- Replacement parts information,
- System schematics, and
- Input/output (I/O) information.

Every installation of Virtual Rail is unique, but each system contains three key areas: lift station(s), storage area(s), and a call-off station to the washers. Virtual Rail optimizes the throughput of soil with the use of the PulseNet software, integrated hardware, and ingenuity.

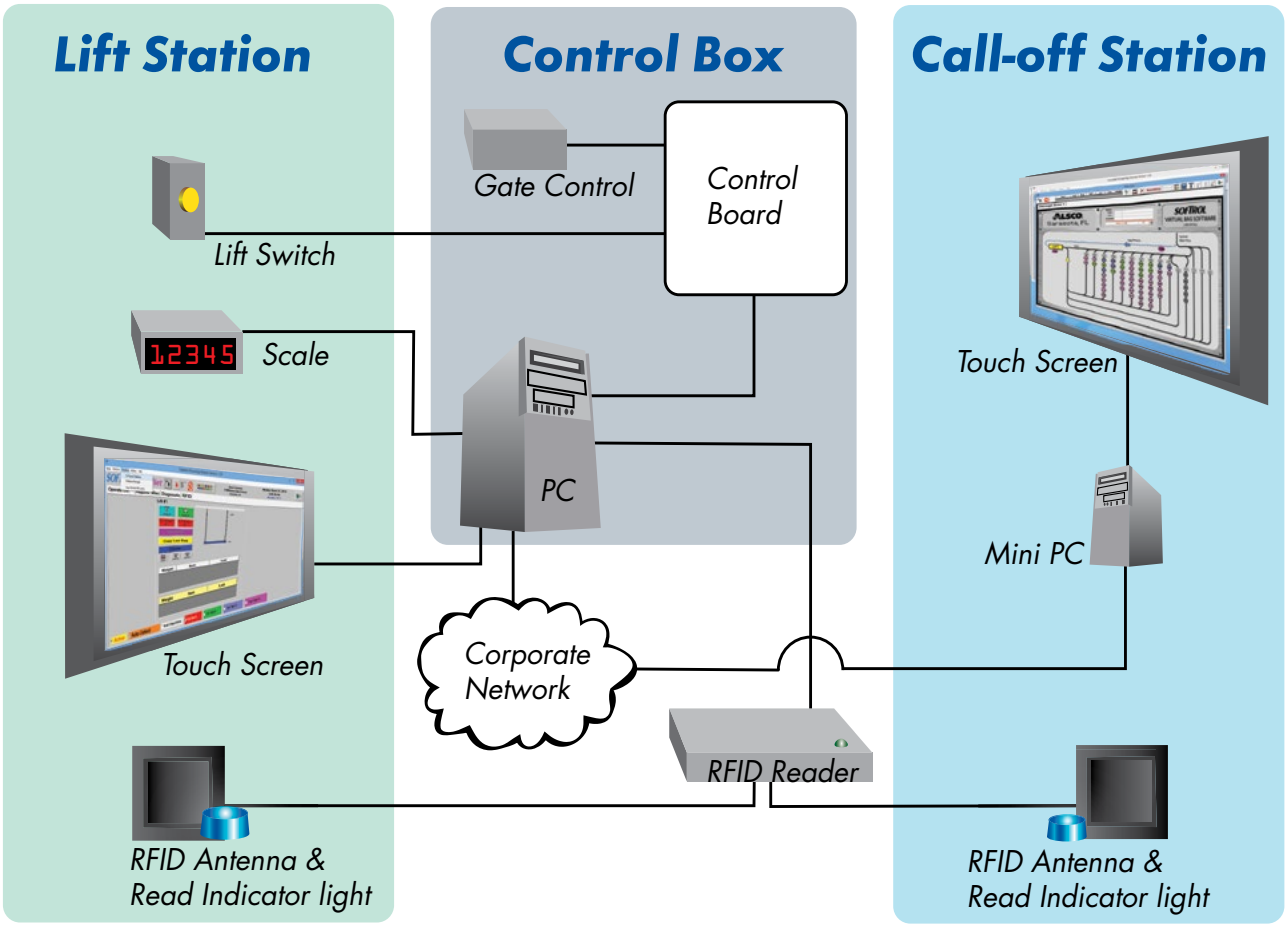


Figure 1. Virtual Rail System overview. The lift station operator inputs the bag data using a touchscreen. The PC communicates with the Control Cabinet via an ARCNET Network. The Control Cabinet receives scale information from the PC. When the weight is correct, the PC tells the Control Cabinet to allow the system to lift the bag. The RFID antenna captures the ID from the RFID tag attached to the trolley (the blue light flashes when a bag is within the range of an antenna). This information is sent back to the PC via the RFID Reader. Once lifted, the system updates the bag's status to stored. The call-off operator uses a touch screen to select bags to move to the washers. As the bags move to the washer, another RFID antenna captures the RFID tag information, sends it to the reader, and the system updates the bag's status to washed.

Lift Station

The lift station operator uses a touch screen to input the bag's item type, lot, and the customer identifier. The PC communicates with the control cabinet using an ARCNET network. Once the Control Cabinet gets agreement between the scale readings and the Virtual Rail software about a bag's allowable weight, it unlocks the lift and allows the operator to lift the bag to storage. At the lift station, an RFID antenna and reader capture the RFID tag information. The Virtual Rail system links the bag information to the RFID tag (see Figure 2).

Figure 2. Left: A typical lift station. Right: A typical call-off station.

Storage Management

The storage areas use numbered rails or areas. The bag moves to the rail designated by the lift station operator. In Figure 3, you can see how the bags (circles) get arranged on the rails based on their item type (number), their lot, or their customer ID (color). The graphical representation allows for quick and easy identification of the bags, and storage management becomes as easy as a drag-and-drop touch screen. Operators easily adjust the placement of bags within the Virtual Rail software and then physically move the bags to match, or vice-versa.

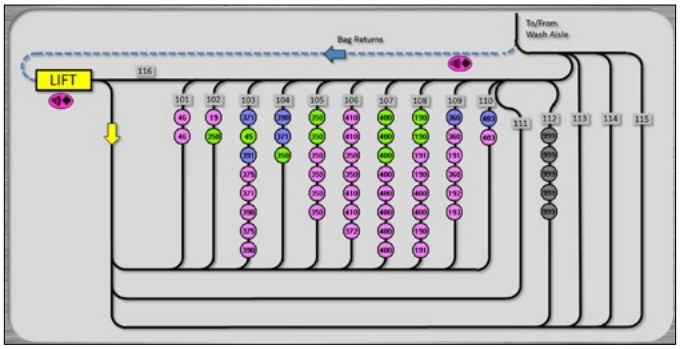


Figure 3. The graphical display of the storage area.

Call-off Station

Now organized in storage, the bags wait until the call-off operator, using the virtual Rail software and a touchscreen PC, selects them for movement to a washer (see Figure 2). The operator then moves the bags to the washer. As the bags move out of the storage area, the RFID system, if installed, captures the bag data again using an RFID antenna, marks the bags as washed, and removes them from the storage area display.

Reports

The Virtual Rail software can generate reports for the current day or reports that span a specific date and time. You can capture details about lifted, dropped, edited, and non-lifted items. You can then print, email, save to a spreadsheet, create a PDF, or generate bar and pie charts. In addition to the Virtual Rail reports, web-based reporting allows easy access to reports for lifted, dropped, stored, and edited bag reports. You can save the web-based reports as Excel spreadsheets or PDFs.

Monitoring

Using VNC (Virtual Network Computing) you can watch and interact with the system remotely over your network.

Quick Access:

Passwords, User IDs, & Addresses

Your Quick Access page provides a quick reference to current passwords and addresses.

Main System Password

This password gives access to configuration and system screens. Anything secured behind this password is sensitive settings and data—use caution.

Password: 011754

Lift Override Password

Use this password to allow lifting of a bag that is out of weight restrictions. See page 5 for instructions on managing the override password.

Password: (Default: **a**) _____

Non-Lifted Items Login (Virtual Rail Software)

To enter non-lifted items in the Virtual Rail software press **Add Non-Lifted Items** on the *Reports* tab.

User Id: (Default: **Manager**) _____

Password: (Default: **a**) _____

Web Reports

Located on your intranet, access your web reports using your Internet browser.

Address: http://_____

User ID: **soil**

Password: **user**

Web Reports Administrator Login

The Administrator login varies from plant to plant and user to user. You can use this space to record your personal administrator login).

User ID: _____

Password: _____

VNC

Using VNC you can remotely monitor the workstation computers over your network.

Password: **go_braves**

Lift Station Address: _____

Call-off Station Address: _____

Post-install Training Checklist

With the completion of the Virtual Rail installation, your installer will guide you in the use of the system and provide you with the information specific to your system. Your installer will cover the following topics with you during post-install training:

Installers name: _____

Date: _____

- ☐ System overview and training
  - ☐ Safety training
  - ☐ Personnel training on system operation and maintenance
    - ☐ System passwords: defaults and how to change them
    - ☐ Non-lifted items: adding and removing
    - ☐ Items: adding, editing, and removing
    - ☐ Lots: adding, editing, and removing
    - ☐ Customers: adding, editing, and removing
  - ☐ Troubleshooting
  - ☐ Getting additional help
- ☐ Web based reports: installed, how to access, and using
  - ☐ Lifted Bag Report,
  - ☐ Dropped Bag Report
  - ☐ Soil Storage Report
  - ☐ Edited Bag Report
- ☐ Relay Logic and I/O diagrams
  - ☐ Received manuals and schematics on a CD
  - ☐ Received a complete set of documentation on setups and procedures

Quick Answers

to Frequently Asked Questions

Now that your system is set up and running, you may not need to change passwords, add or modify items, lots, or customers for quite some time. It is easy to forget the steps involved. The Quick Answers section is here to guide you through these frequently asked questions.

How To
Change the Weight Tolerance Override Password

If the lift operator needs to put a bag through to storage that does not meet weight requirements, a manager must input the override password.

To change the password:

1. From the main menu select **Setup> Program Options**.
2. Enter the Master Virtual Rail system password (see page 3).
3. Locate the "Get Bag Weight" section in the lower right of the *Program Options* screen (see Figure 4).

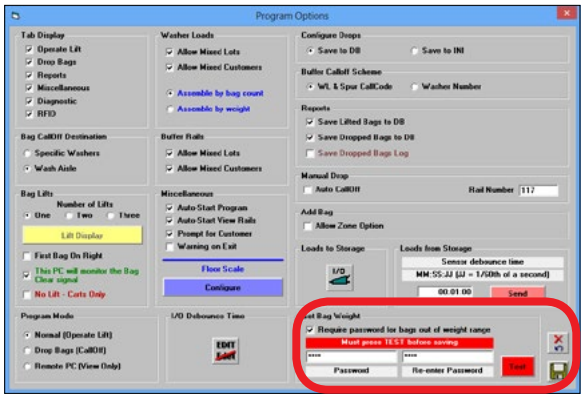


Figure 4. The program options screen. Use the Get Bag Weight section to modify the override password.

4. Enter the new password in the **Password** field, and enter it again in the **Re-enter Password** field (see Figure 5).
5. Press **Test**.

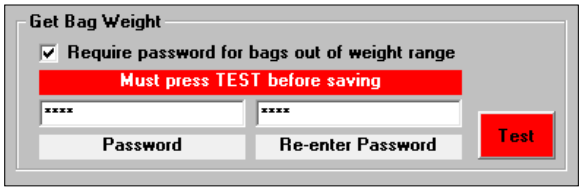


Figure 5. Enter the password twice. Press Test to ensure the password is valid.

6. Receive a successful test then press **Save** (see Figure 6).
7. Exit the Virtual rail application and reopen it before giving control to the lift operator.

Figure 6. Receive the message, "Passwords match... OK to proceed" before pressing Save.

How To
Manage Non-lifted Items Using Web Reports

Some items can't be lifted, or you need to send them directly to a wash station. It is important to add these non-lifted items so that your reports remain accurate. In earlier versions of Virtual Rail, you used the PVBM Reports tab to manage your non-lifted items. Of course, you can still enter your non-lifted items through the application, but with web-based reporting you can now enter your non-lifted items without disturbing plant production.

Like the PVBM software, the system restricts access for adding and deleting non-lifted items. To access the Add Non-Lifted Items tool, you must log into your web reports using a login with administrator privileges. If you do not know your administrator login information, contact Softrol Support (see "Get Additional Support" on page 36).

Add a Non-lifted Item

To add non-lifted items to your system you need to open your Virtual Rail Reports and login using your administrator login and password. If you need more information about accessing reports, see "Reports" on page 15. The page defaults to the current date and time, but you can modify the date and time. Once you change the **Date** the lower portion of the screen displays any other non-lifted items in the system for that date. Open Virtual Rail reports using your Internet browser, sign in, and then:

1. Log into Web Reporting using your administrator password.
2. Select **Add Non-Lifted Items** from the **Soil** menu (see Figure 7).
3. Enter the Date, Machine, and Load Content information.
4. Enter the Load Information. When adding the load information you can enter multiple loads as long as the load contents, weights, and bag count match.

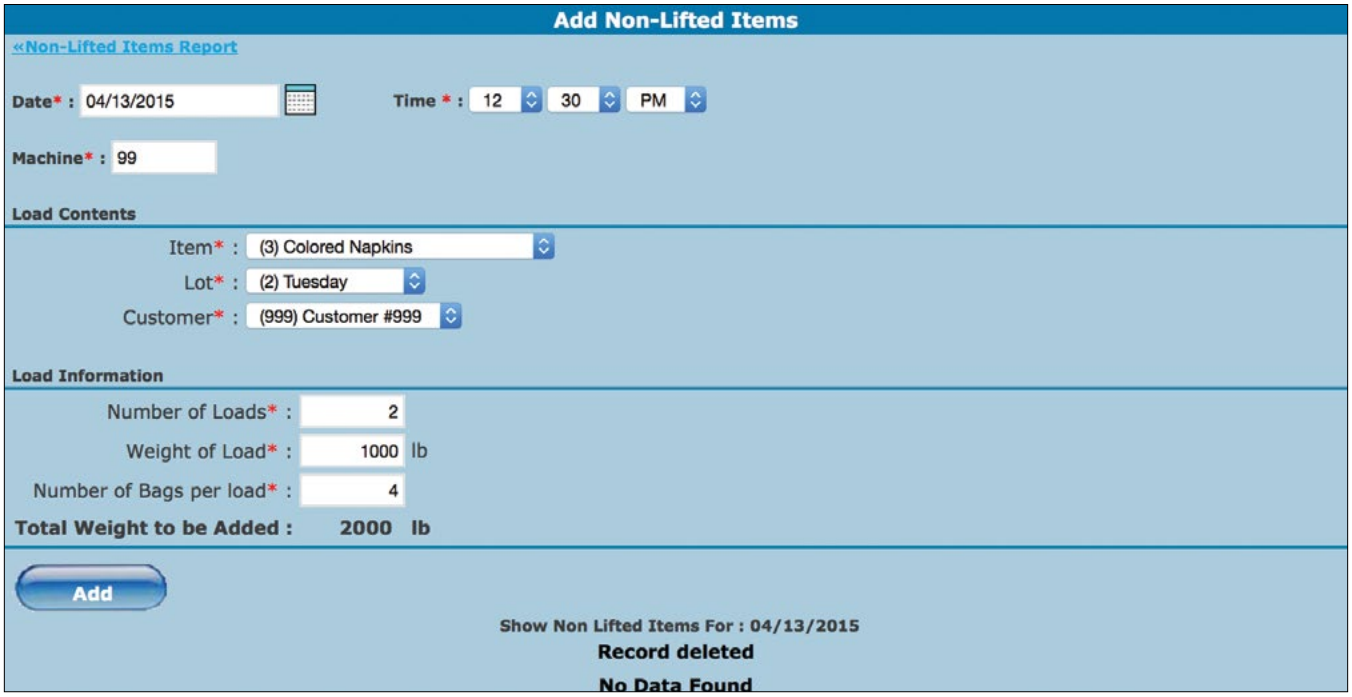


Figure 7. Add Non-Lifted Items page.

Delete a Non-lifted Item

You remove or delete a non-lifted item from the Add Non-Lifted Items page in Virtual Rail Web Reporting. Open Virtual Rail Web reports, login using your administrator login, and then:

1. Set the date field to the day you need to delete non-lifted items. If you use the calendar to select the date, the bottom of the screen refreshes to show all loads added on that day. If you use the keyboard instead of the calendar, you will need to press the [tab] key or click outside the **Date** text field to refresh the **Records Inserted** table (see Figure 8).

2. Click the **Delete** link in the first column for the entry you want to remove.

3. Select **Ok** in the confirmation pop-up.

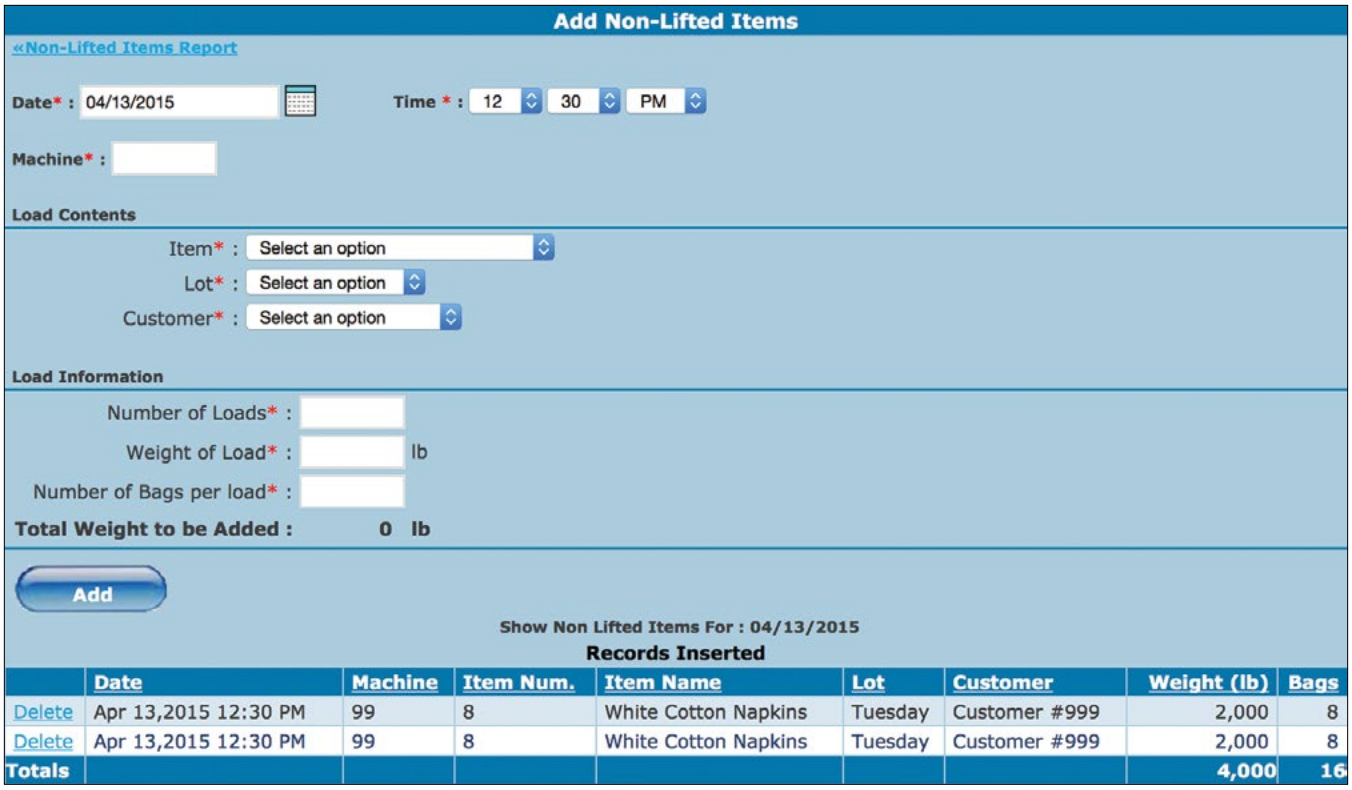


Figure 8. Delete a Non-Lifted Item using the Add Non-Lifted Items page.

Edit a Non-lifted Item

You cannot edit a non-lifted item. If you need to change the information about a non-lifted item, you need to delete the item and re-add it using the *Add Non-Lifted Items* page in *Virtual Rail Web Reports*.

How To
Manage Non-lifted Items Using PVBM

Some items can't be lifted or you need to send them directly to a wash station. It is important to add these non-lifted items so that your reports remain accurate.

Add a Non-lifted Item

To add or remove non-lifted items from the system:

1. Open the **Reports** tab.
2. Click the **Add Non-lifted Items** button (see Figure 9).
3. Enter the authorized **User** ID and **Password** when prompted.

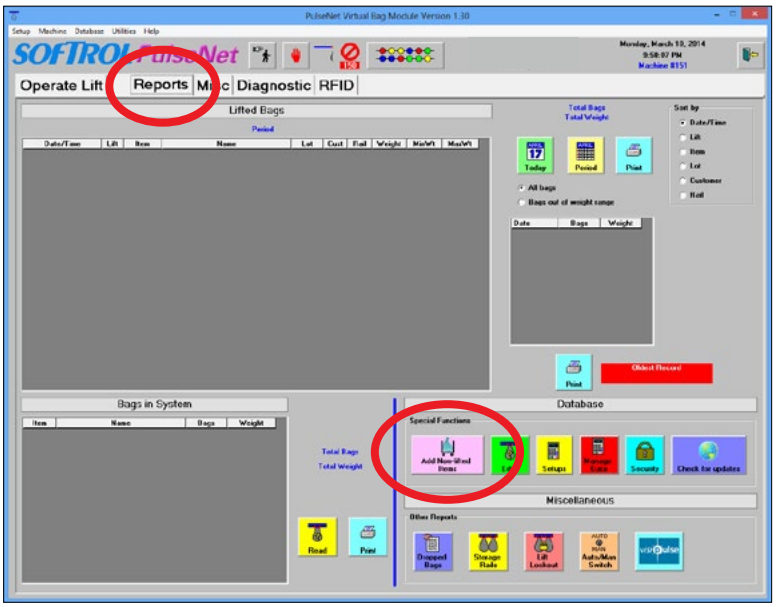


Figure 9. Using the **Reports** tab, click the **Add Non-lifted Items** button.

4. Enter the **Date** and **Time** (if different).
5. Select the **Item**, **Lot**, and **Customer.**
6. Enter the total **Weight** for all of the bags or items. The system does not calculate the total weight.
7. Enter the number of **Bags**. Even if you didn't bag the items, enter at least one bag.
8. Press the **Add to List** button (see Figure 10). Note: The items do not get added to the database until you complete step 11.

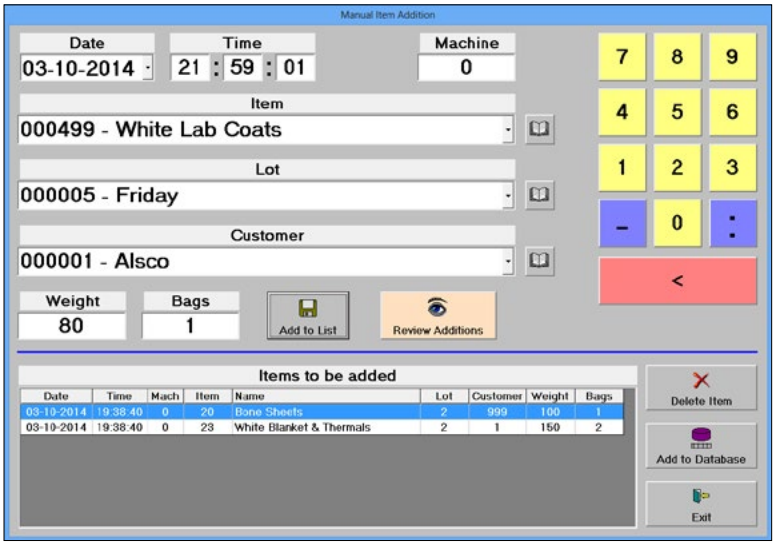


Figure 10. Manual Item Addition dialog. *Enter the bag details. Press* **Add to List.** *Save the list by pressing* **Add to Database**.

As you repeat the steps one through eight, the added items appear in the **Items to be Added** list.

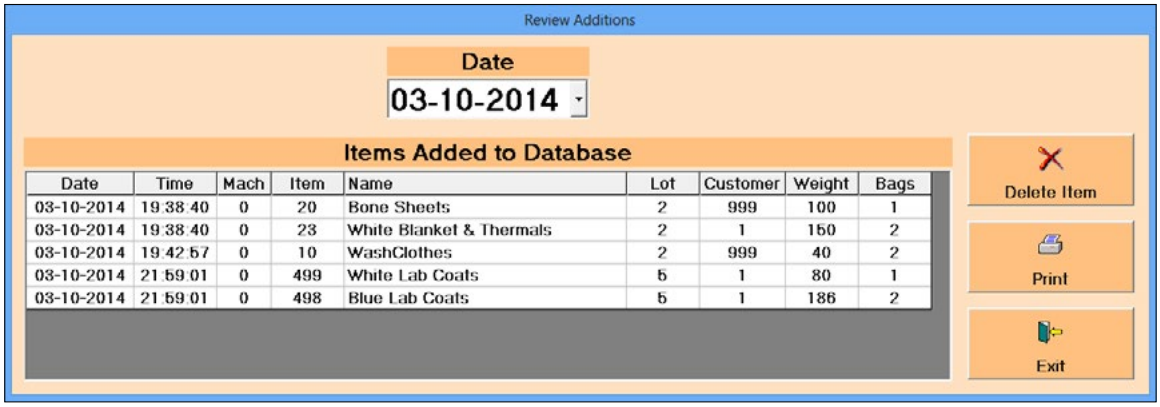
9. Continue adding items by changing the non-lifted item details and pressing **Add to List.**
10. Remove additions by selecting the items in the display and press **Delete Item**.
11. Press **Add to Database** to save the list to the database.

Delete a Non-lifted Item

You can always remove a non-lifted item by using the **Review Additions** button located on the same *Manual Item Addition* screen.

1. Open the **Reports** tab.
2. Click the **Add Non-lifted Items** button (see Figure 9).
3. Enter the authorized **User** ID and **Password** when prompted.
4. Click the Review Additions button (see Figure 11).
5. Adjust the **Date** if needed to view older added items (see Figure 12).
6. Select entries in the data list to delete or print.

Figure 11. The *Review Additions* button located on the Non-Lifted Items screen.



Date	Time	Mach	Item	Name	Lot	Customer	Weight	Bags
03-10-2014	19:38:40	0	20	Bone Sheets	2	999	100	1
03-10-2014	19:38:40	0	23	White Blanket & Thermals	2	1	150	2
03-10-2014	19:42:57	0	10	WashClothes	2	999	40	2
03-10-2014	21:59:01	0	499	White Lab Coats	5	1	80	1
03-10-2014	21:59:01	0	498	Blue Lab Coats	5	1	186	2

Figure 12. The *Review Additions* screen displays all the added items.

How To
Manage Items, Lots, and Customers

Occasionally you will need to add, delete, or modify data for the items, lots, or customers that Virtual Rail uses to manage and track soil. To modify the data click **Database> Configure Database** on the main Virtual Rail menu.

Items

Use the top half of the *Configure Database* screen for managing items.

Add a New Item

When you need to add new items, always use the **Quick Item Addition** button located in the top left corner of the *Configure Database* screen (see Figure 13). ***Do not*** use the green **Add** button. In the *Add New Item* dialog box:

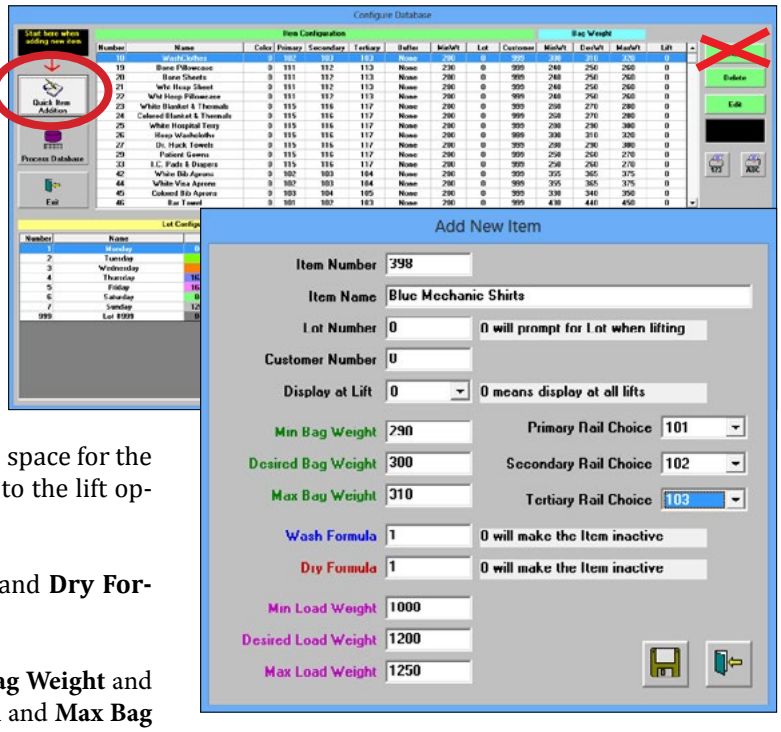


Figure 13. Top: The Configure Database screen. Use the **Quick Item Addition Button**. *Bottom: Enter the item information.*

1. Enter a unique **Item Number**.
2. Provide a descriptive **Name**.
3. You can restrict the **Lot** and **Customer** for the item by providing them here.
4. Restrict the item to a specific lift station by picking a lift number in the **Display at Lift** list.
5. Enter the rail choices. Virtual Rail looks at the contents of each rail starting with your primary choice until it finds space for the bag. It will suggest the first available rail to the lift operator.
6. Enter the non-zero values for the **Wash** and **Dry Formulas**.
7. Set the bag weights. Establish a **Desired Bag Weight** and allow a 20-pound variance between the **Min** and **Max Bag Weights** (see Figure 10).
8. Press the **Save** button.

Continue modifying and adding items following steps one through eight.

9. Press **Exit** when you finish adding new items.
10. Your new item(s) will appear in the **Items** table at the top of the screen.

Edit an Item's Name

Editing an item's name requires a different process than editing the other details.
To edit an item's name:

1. Select **Configure Database** from the **Database** menu.
2. Click the **Process Database** button (see Figure 14).
3. Select the item in the list on the left (you may need to toggle between "All Records" and "Valid Records" in the Reading Database section at the bottom of the list.
4. Change the Description field to change the item's name.
5. Ignore all of the other fields on the page.
6. Press the Save Button.
7. Proceed to the next section, "Edit an Item's Details" to change any other item information.

Figure 14. The Process Database button.

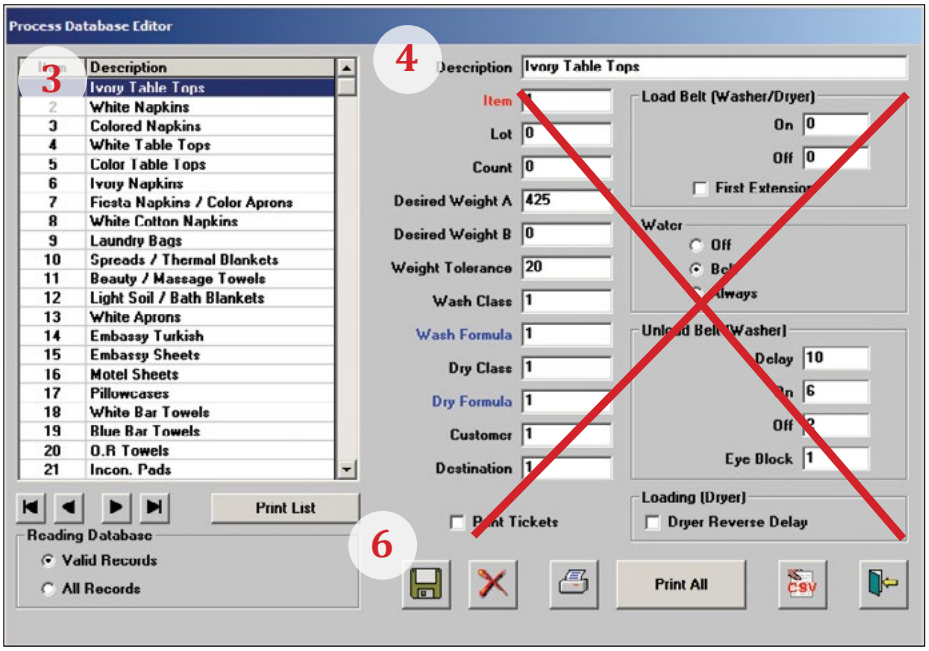


Figure 15. Process Database Screen

Edit an Item's Details

You may find that you need to change the details about an item. Here you can modify the lift and rail designations and the bag weight tolerances. If you need to change the items name, see "Edit an Item's Name" on page 11. To modify the data click **Database> Configure Database** on the main Virtual Rail menu.

1. Click to select the item you want to modify in the **Item Configuration** table at the top of the *Configure Database* page (green header).

2. Press the green **Edit** button to the right of the table.

3. Edit any of the item details.

4. Press **Save** (see Figure 16).

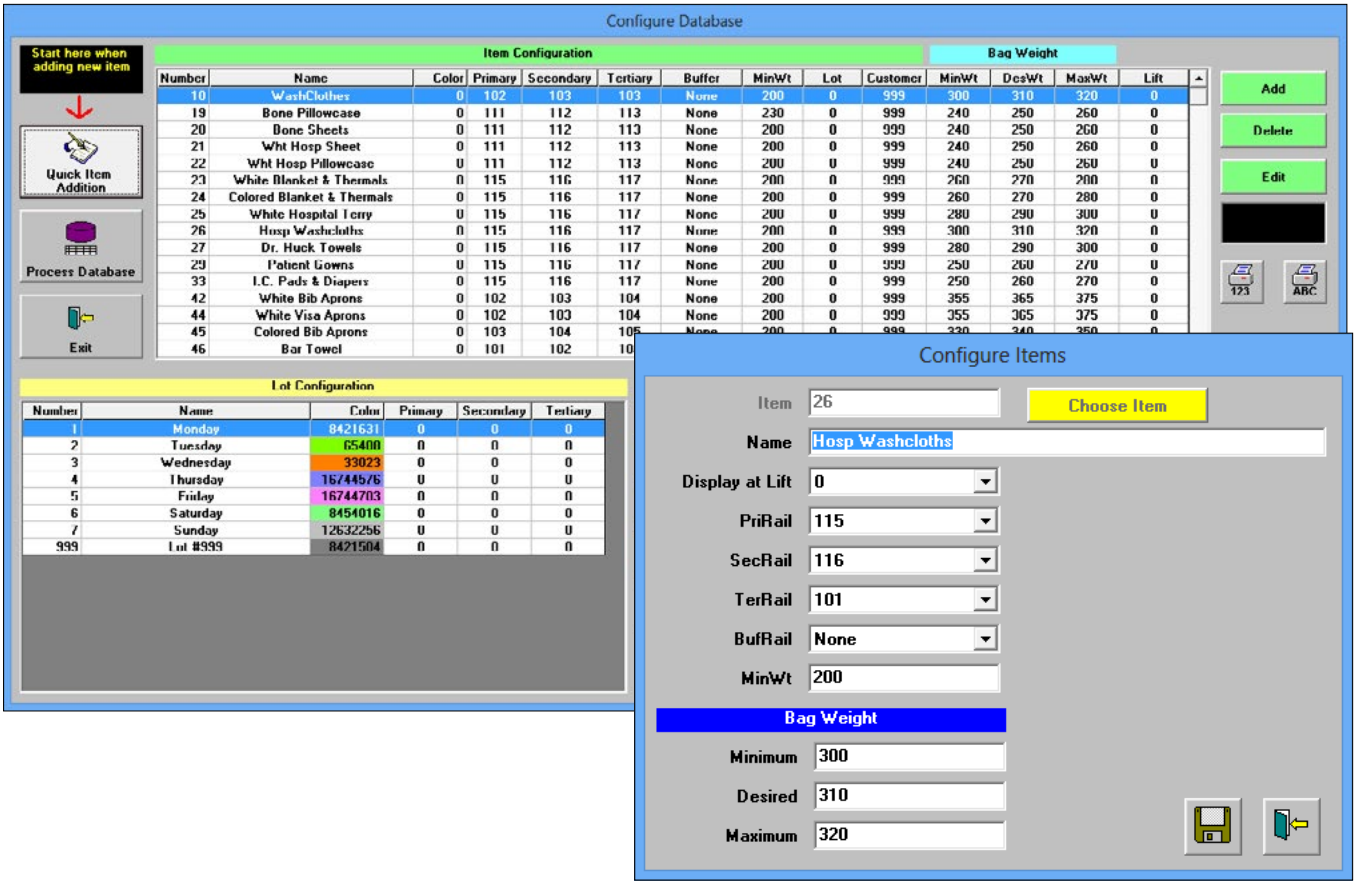


Figure 16. Configure Items. Make your changes and press **Save**.

Lots and Customers

If the plant uses lots or customers to track soil, you may need to manage the data. You can view your current data in the **Lot Configuration** and the **Customer Configuration** tables on the bottom of the *Configure Database* screen.

Add a New Lot or Customer

To create a new lot or customer:

1. Press the **Add** button to the right of the table (yellow buttons for lots and pink buttons for customers).
2. Enter a unique **Lot** or **Customer** number.
3. Enter a lot or customer **Name** (see Figure 17).
4. Press the **Color** button (rainbow) to select a color.
5. Choose a unique color for the lot or customer (see Figure 18).
6. Press **OK**.
7. Press **Save**.

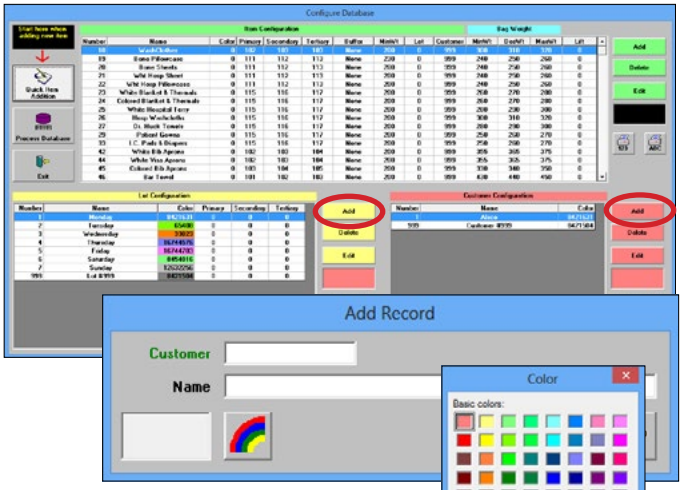


Figure 17. The *Add Record* dialog is used for customers and lots.

Figure 18. The *Color* selection dialog is used for customers and lots.

Edit Lots and Customers

Editing lots and Customers is similar to adding them.

To edit a lot:

1. Select a lot or customer in the table.
2. Press the yellow or pink **Edit** button to the right of the table.
3. Edit the data.
4. Press **Save** (see Figure 19).

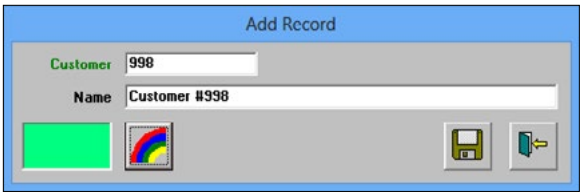


Figure 19. The edit screen for lots and customers is the same as the add screen. You can only change the name and the color.

Delete Items, Lots, and Customers

To permanently remove an item, lot, or customer:

1. Select a record in the item, lot, or customer **Configuration** table.
2. Press **Delete** to the right of the **Configuration** table.
3. Press **Yes,** if prompted.

How To
Manage Users

When adding non-lifted items or editing bags the user must enter their username and password. You can modify, add, and delete these users and their passwords.

Change a User's Password

To change a user's password:

1. Open the *Reports* tab (see Figure 20).
2. Press **Security.**
3. Enter the main system password (see page 3).

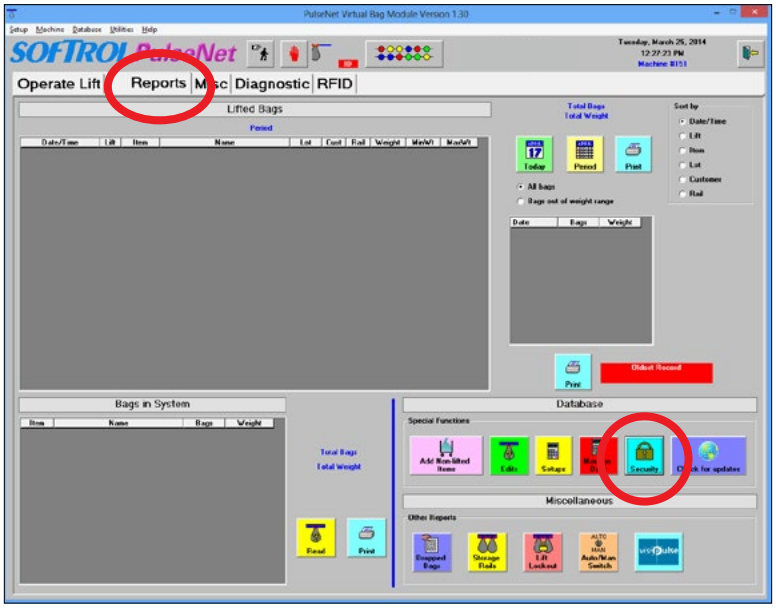


Figure 20. Open the *Reports* tab. Press **Security**.

4. Select a user in the **Users** list.
5. Change the password in the P**assword** field.
6. Press the **Save User** button (see Figure 21)**.**

Figure 21. Select a user. Change the password. Press **Save User**.

7. Press **Yes** when asked, "Are you sure you want to do this?" (see Figure 22).

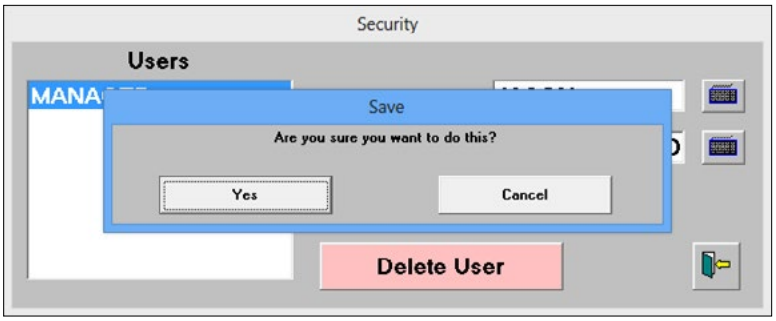


Figure 22. Select **Yes** to confirm your changes.

Add a User

To add a new user:

1. Select an existing user in the **Users** list (see Figure 23).
2. Modify the **User**name.
3. Enter a **Password**.
4. Press **Save User.**
5. Select **Yes** when asked, "Are you sure you want to do this?"

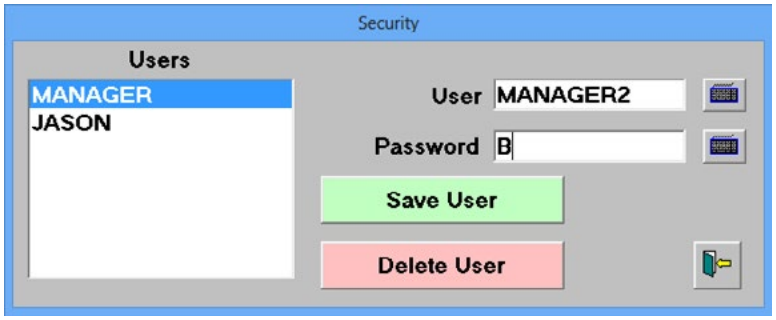


Figure 23. Select a user. Change the Username and Password. Press **Save User.**

Delete a User

To remove a user:

1. Select an existing user in the **Users** list.
2. Press **Delete User**.
3. Select **Yes** when asked, "Are you sure you want to do this?"

Reports

Virtual Rail provides you two convenient ways to access and your data: Web-based reports and in-application reports. Although the web-based reports offer access from any networked in-plant computer, the in application reports can provide you with quick access to reports when you're out on the plant floor.

Web-based Reports

Virtual Rail web-based reporting offers detailed reports for lifted, dropped (washed), stored, and edited bags.
To log into the web-based reports:

1. Enter the network address from your Quick Access page on page three.
2. Enter the **Username** and **Password** listed on page 3 (see Figure 24).
3. Click **Log In**.

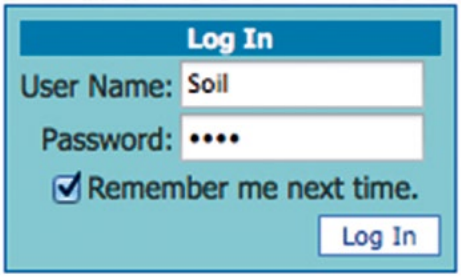


Figure 24. Web reports login.

The Dashboard

Once logged in to Virtual Rail Web Reports you see the Virtual Rail dashboard. The dashboard provides a production summary for the current date. You can expand the summary to include a range of dates by using the date selection tools at the top of the page. Your production summary consists of three parts: Lifted Bag, Dropped Bag, and Hourly Production (see Figure 25).

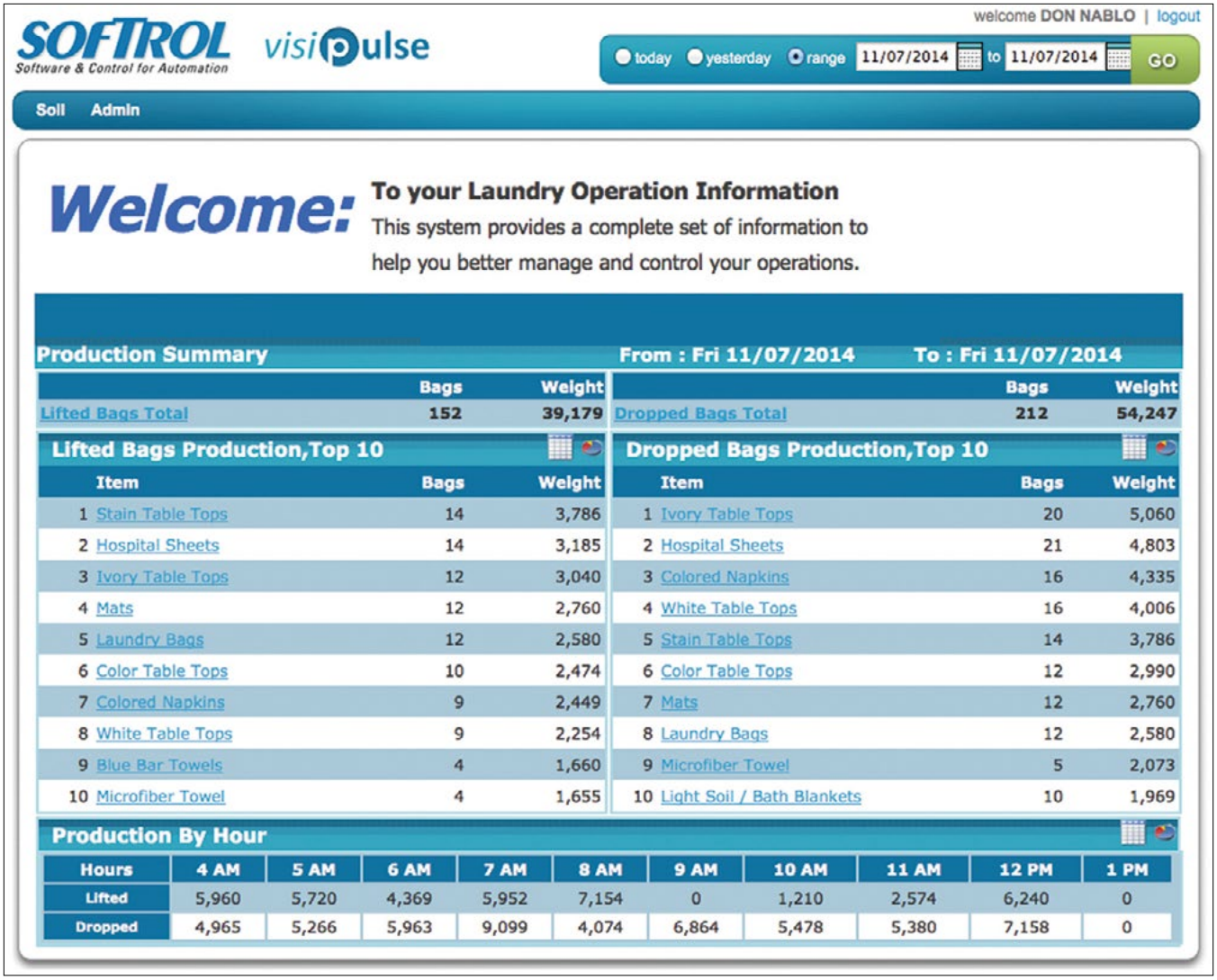


Figure 25. Virtual Rail Dashboard.

Lifted and Dropped Bag Summary

The top of the Welcome screen gives you your:

1. Lifted totals,
2. Dropped totals, and
3. Productions top ten lifted and dropped items.

You can use the links on the tables to go to detailed reports for the specific items, and you can generate pie charts using the icons in the upper right corner of the tables. (see Figure 26).

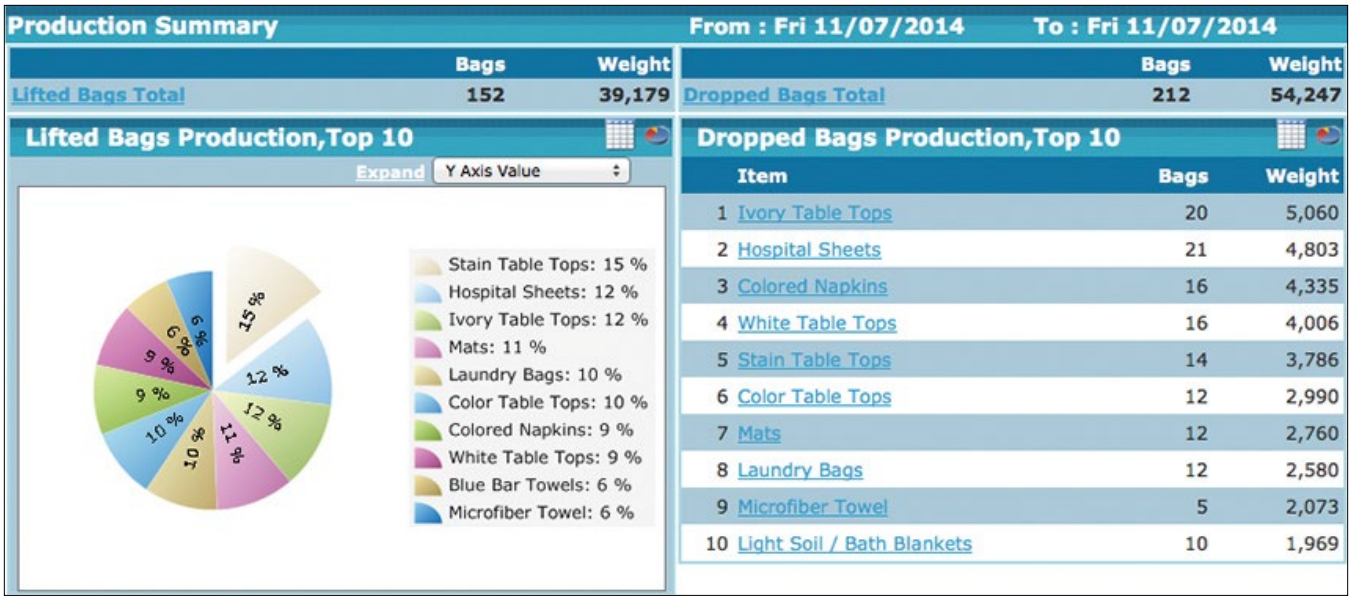


Figure 26. Production Summary: Lifted and Dropped bag. Use the icons to generate pie charts of the Top 10 production items..

Production by the Hour

The lower half of the Dashboard gives you hourly production totals. Regardless of the date selection at the top of the page, range or a single day, the report provides totals for the lifted and dropped bags during that hour. You can quickly see when your production is strongest and where it slows. Clicking the bar chart icon in the upper right opens a graphical display. If you click the Expand option, not only do you get a larger display, but you also get data for the full 24-hours (see Figure 27).

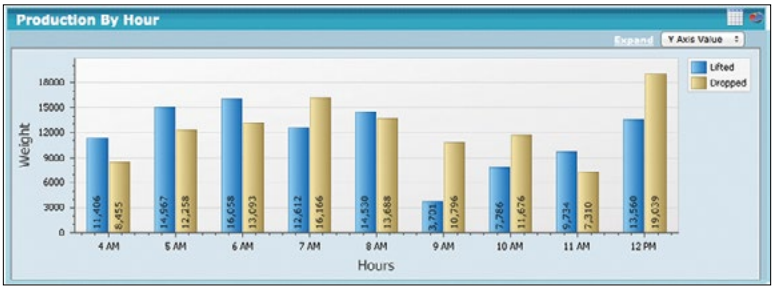


Figure 27. Production Summary: Lifted and Dropped bag. Use the icons to generate pie charts of the Top 10 production items..

Setting the Date Range

You can specify a single day or a range of dates for your reports. Once you have selected the dates, the dates apply globally to all of your reports. To set the date for your reports:

1. Select **Today**, **Yesterday**, or a **Range** (see Figure 28).

2. Click **Go.**

Figure 28. The Report Date selection.

Lifted Bag Report

The *Lifted Bag Report,* located under the Soil menu, allows you to view the history of the bags lifted into the system. Customize this report by:

1. Select a **Group By** value.
2. Select one or more items from the **Items** list (hold down the shift key to select a range, use the control key to select individual items in the list).
3. Click **Search** to refresh the data based on the new selection.
4. Save the report to Excel or PDF by clicking on the icon.
5. Click the column headings to sort the data.
6. Click the links in the report to drill down to more detailed data
7. Scroll to the bottom of the page to get the report totals (see Figure 29).

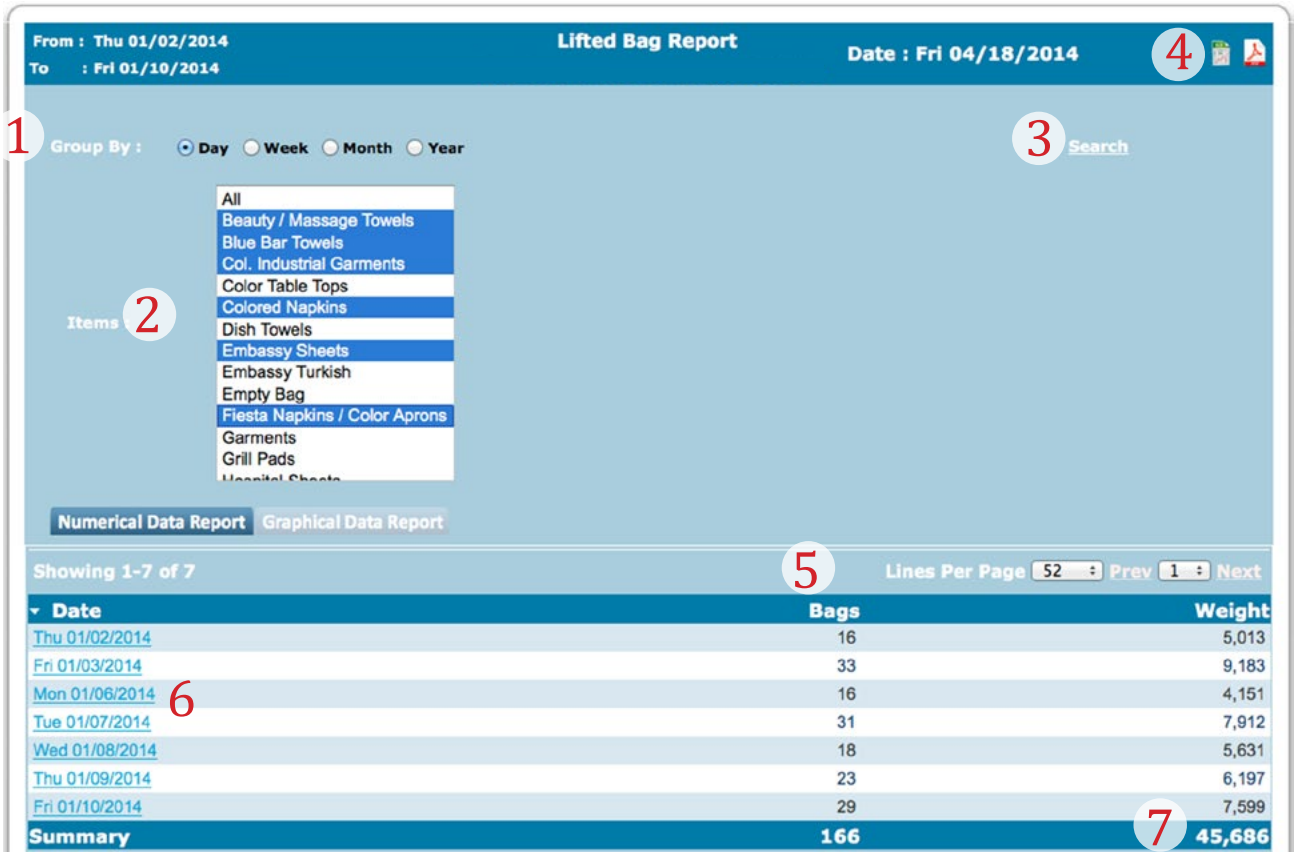
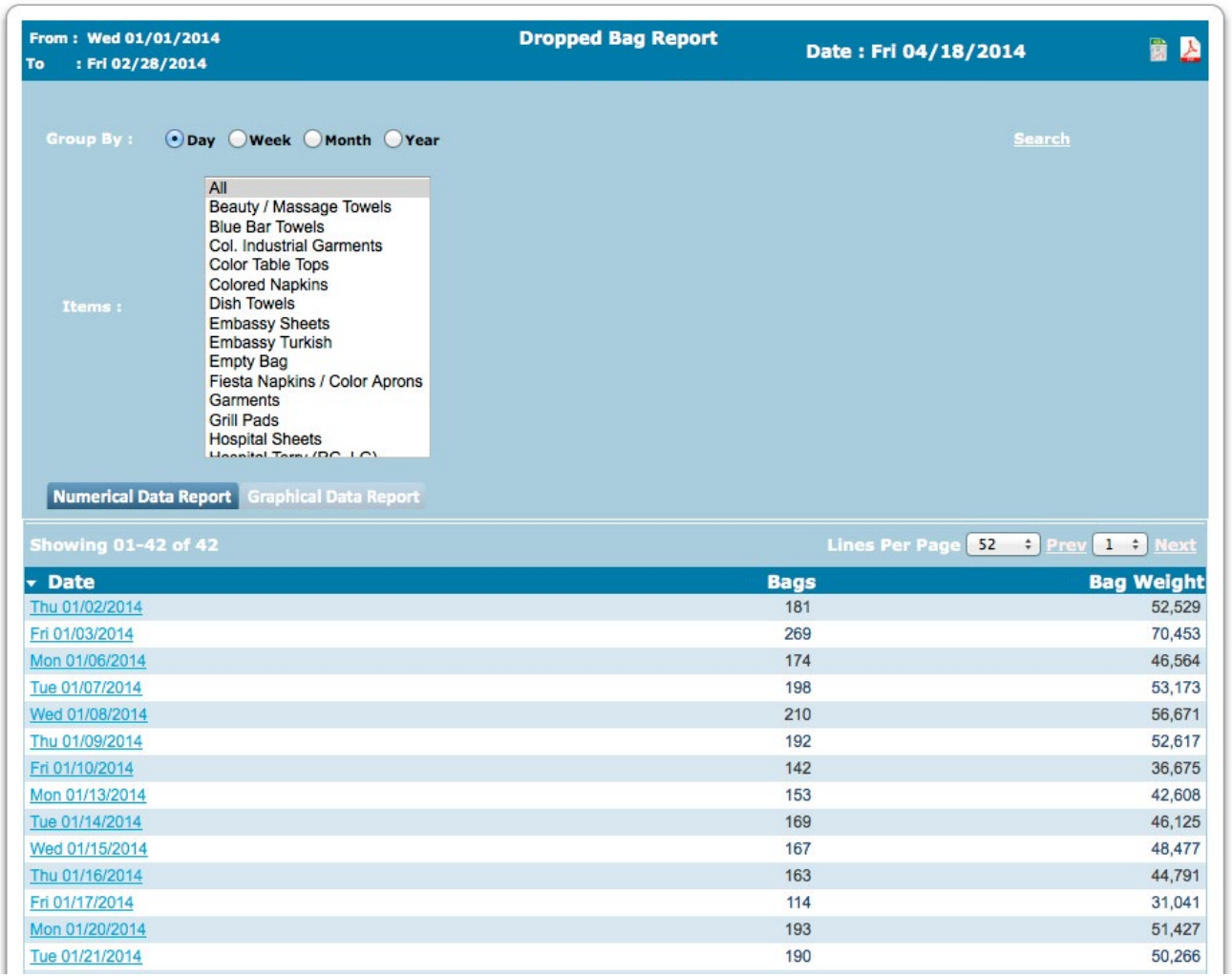


Figure 29. The *Lifted Bag Report.*

Dropped Bag Report

Once a bag moves out of storage, it is considered “dropped” or washed. The *Dropped Bag Report* allows you to view historical reports about the dropped bags. Like the *Lifted Bag Report*, you can group, sort, filter, and drill down into the data (see Figure 30).



Date	Bags	Bag Weight
Thu 01/02/2014	181	52,529
Fri 01/03/2014	269	70,453
Mon 01/06/2014	174	46,564
Tue 01/07/2014	198	53,173
Wed 01/08/2014	210	56,671
Thu 01/09/2014	192	52,617
Fri 01/10/2014	142	36,675
Mon 01/13/2014	153	42,608
Tue 01/14/2014	169	46,125
Wed 01/15/2014	167	48,477
Thu 01/16/2014	163	44,791
Fri 01/17/2014	114	31,041
Mon 01/20/2014	193	51,427
Tue 01/21/2014	190	50,266

Figure 30. The *Dropped Bag Report.*

Soil Storage Report:

The *Soil Storage Report* gives detailed information about the current bags in storage. You can view the report in three ways: by the item, by the rail, and graphically.

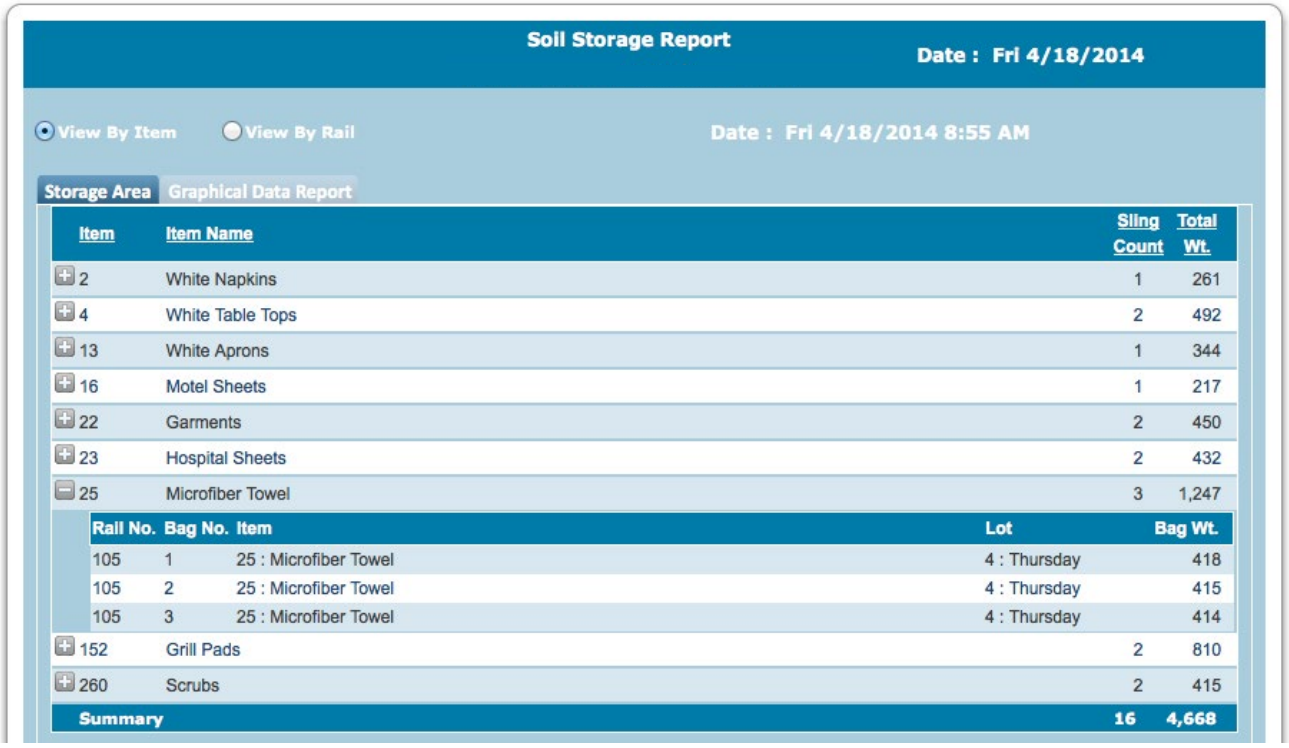
Item and Rail View

The **View by Item** option lists the items currently in storage. Click the plus sign next to an item to get detailed information about the bags containing that item. At the top level, the report provides the number of bags and their total weight. Expanding the item breaks down the information to include: rail number, bag number, lot, and individual weights (see Figure 31).

The **View by Rail** option groups the data by the rail. Click on the plus sign next to the rail to expand the view to see the rails current contents (see Figure 32). This expanded view gives you the item, weight, and lot for each bag.

Graphical View

The graphical view shows the bags on rails. The color represents the bag's lot, and the item number is on the little tag hanging off of the circle. Hover over the bag to pull up more detailed information (See Figure 33)



Soil Storage Report — Date : Fri 4/18/2014

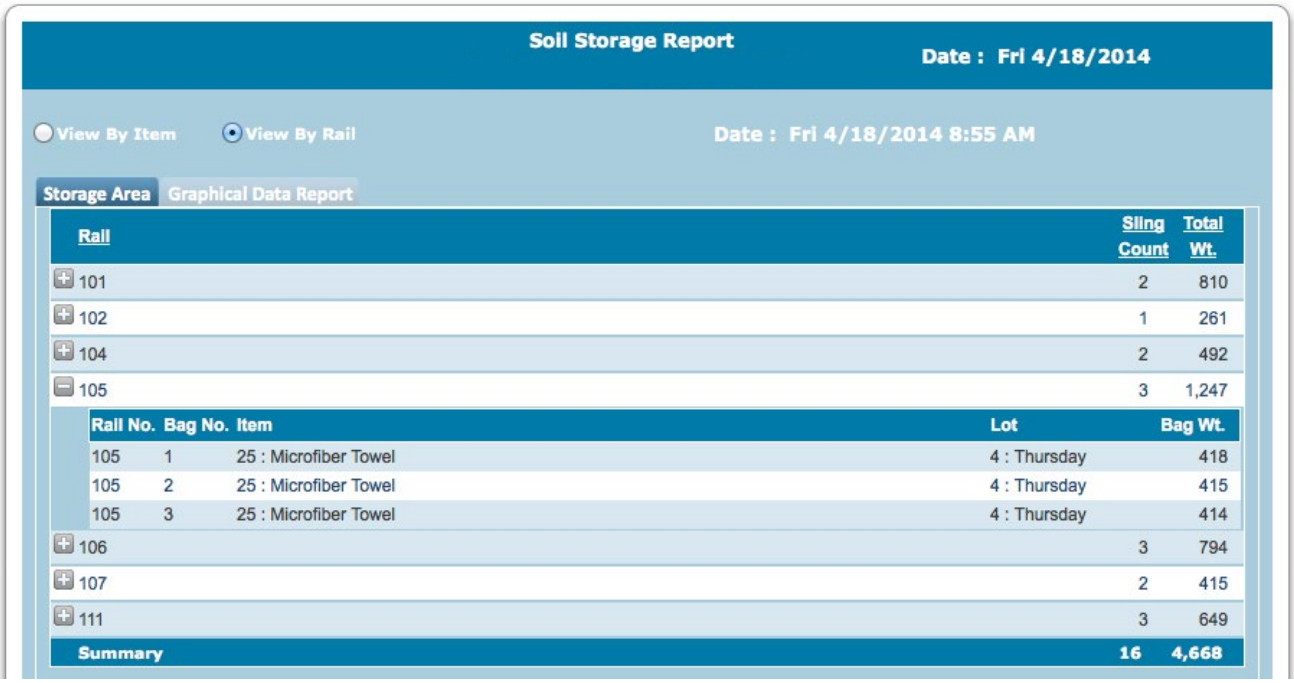
View By Item | View By Rail — Date : Fri 4/18/2014 8:55 AM

Storage Area | Graphical Data Report

Item	Item Name	Sling Count	Total Wt.
2	White Napkins	1	261
4	White Table Tops	2	492
13	White Aprons	1	344
16	Motel Sheets	1	217
22	Garments	2	450
23	Hospital Sheets	2	432
25	Microfiber Towel	3	1,247
152	Grill Pads	2	810
260	Scrubs	2	415
Summary		16	4,668

Rail No.	Bag No.	Item	Lot	Bag Wt.
105	1	25 : Microfiber Towel	4 : Thursday	418
105	2	25 : Microfiber Towel	4 : Thursday	415
105	3	25 : Microfiber Towel	4 : Thursday	414

Figure 31. Soil Storage Report: View by Item



Soil Storage Report — Date : Fri 4/18/2014

View By Item | View By Rail — Date : Fri 4/18/2014 8:55 AM

Storage Area | Graphical Data Report

Rail	Sling Count	Total Wt.
101	2	810
102	1	261
104	2	492
105	3	1,247
106	3	794
107	2	415
111	3	649
Summary	16	4,668

Rail No.	Bag No.	Item	Lot	Bag Wt.
105	1	25 : Microfiber Towel	4 : Thursday	418
105	2	25 : Microfiber Towel	4 : Thursday	415
105	3	25 : Microfiber Towel	4 : Thursday	414

Figure 32. Soil Storage Report: View By Rail.

Edited Bag Report

The Edited Bag report gives you a list of all the bags that someone edited after the system accepted them. Click the row for any entry in the list to see a reformatted version that separates the data into original and edited information. This view has all of the changes highlighted in red (see Figure 34).

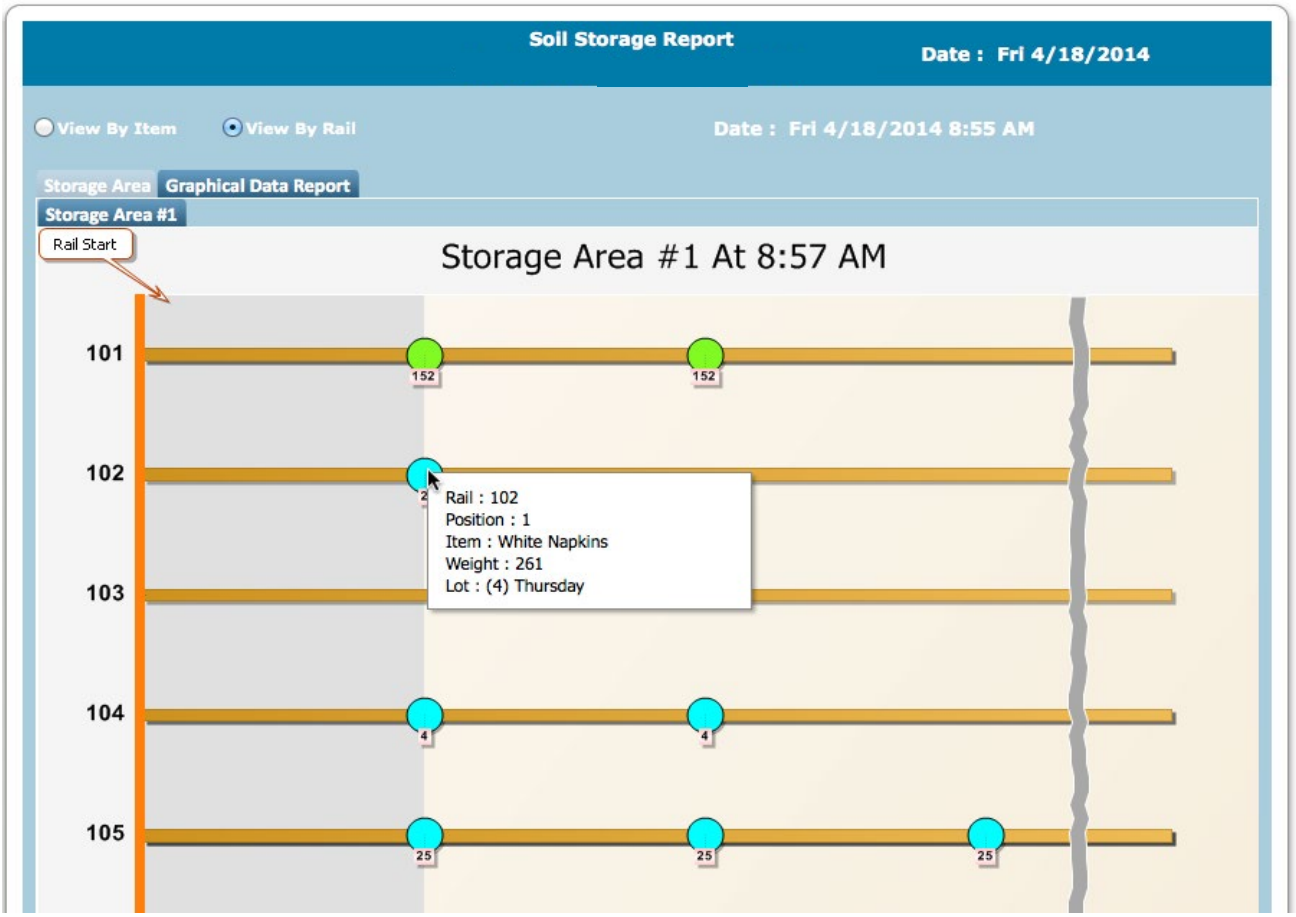


Figure 33. Soil Storage Report: Graphical Data Report

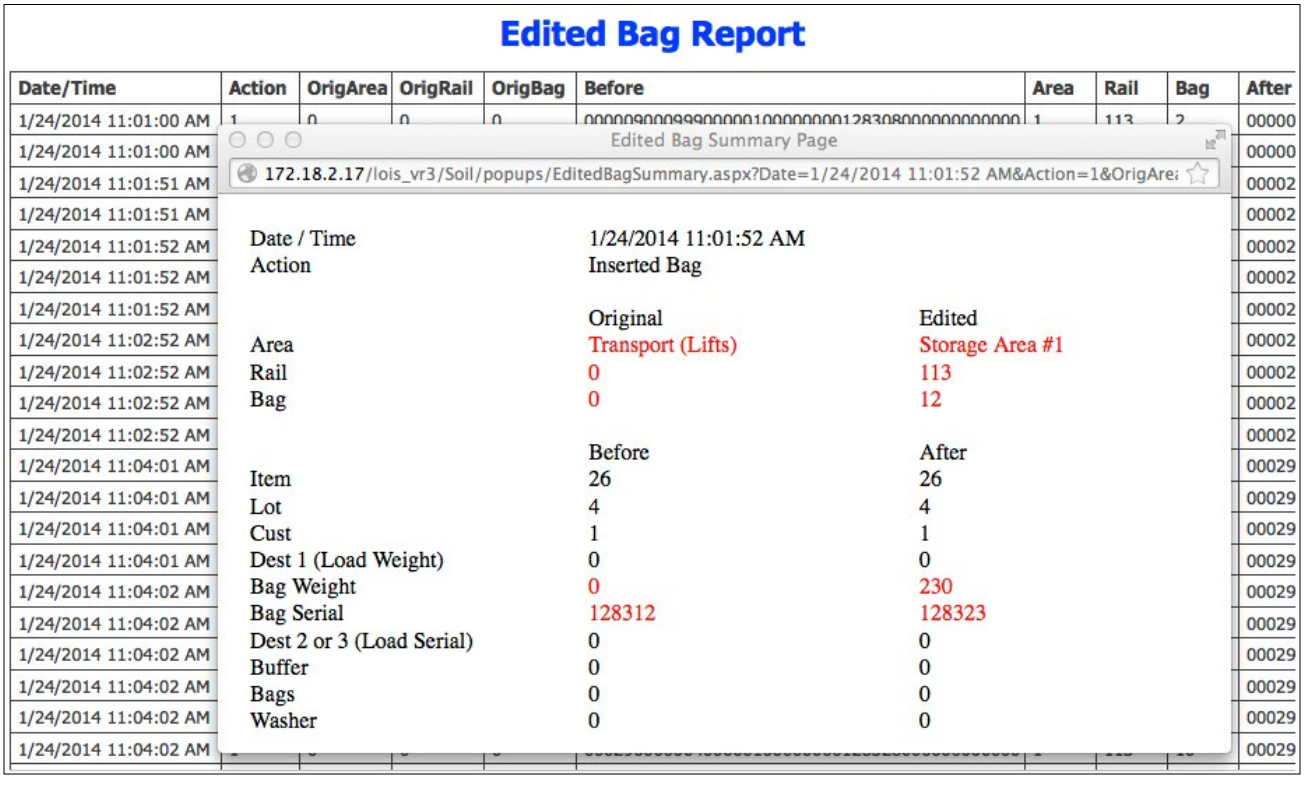


Figure 34. Edited Bag Report.

Auto/Manual Status Report

The Auto/Manual Status Report gives you numeric (see Figure 35) and graphical data about your system's status. The report displays the information about when someone switched the system between manual and automatic mode. Simply hover over any data point to get detailed information about the auto/manual transitions (see Figure 36). If you would like a PDF copy of the graphical view, use the PDF link just above the chart.

From:1/2/2014
To:1/2/2014

Auto / Manual Status

Date : Tue 5/13/2014

Numerical Data Report | Graphical Data Report

Start Time	End Time	Auto/Manual Status	Duration (mm:ss)
Jan 02,2014 12:00:00 AM	Jan 02,2014 04:24:24 AM	Automatic	264:24
Jan 02,2014 04:24:24 AM	Jan 02,2014 04:24:36 AM	Manual	00:12
Jan 02,2014 04:24:36 AM	Jan 02,2014 04:26:05 AM	Automatic	01:29
Jan 02,2014 04:26:05 AM	Jan 02,2014 04:26:18 AM	Manual	00:13
Jan 02,2014 04:26:18 AM	Jan 02,2014 04:53:34 AM	Automatic	27:16
Jan 02,2014 04:53:34 AM	Jan 02,2014 04:54:42 AM	Manual	01:08
Jan 02,2014 04:54:42 AM	Jan 02,2014 07:20:15 AM	Automatic	146:33
Jan 02,2014 07:20:15 AM	Jan 02,2014 07:21:05 AM	Manual	01:50
Jan 02,2014 07:21:05 AM	Jan 02,2014 08:28:28 AM	Automatic	67:23
Jan 02,2014 08:28:28 AM	Jan 02,2014 08:28:39 AM	Manual	00:11
Jan 02,2014 08:28:39 AM	Jan 02,2014 12:10:13 PM	Automatic	222:34
Jan 02,2014 12:10:13 PM	Jan 02,2014 12:10:53 PM	Manual	01:40
Jan 02,2014 12:10:53 PM	Jan 02,2014 11:59:59 PM	Automatic	709:06

Figure 35. Auto / Manual Status Report numerical data view.

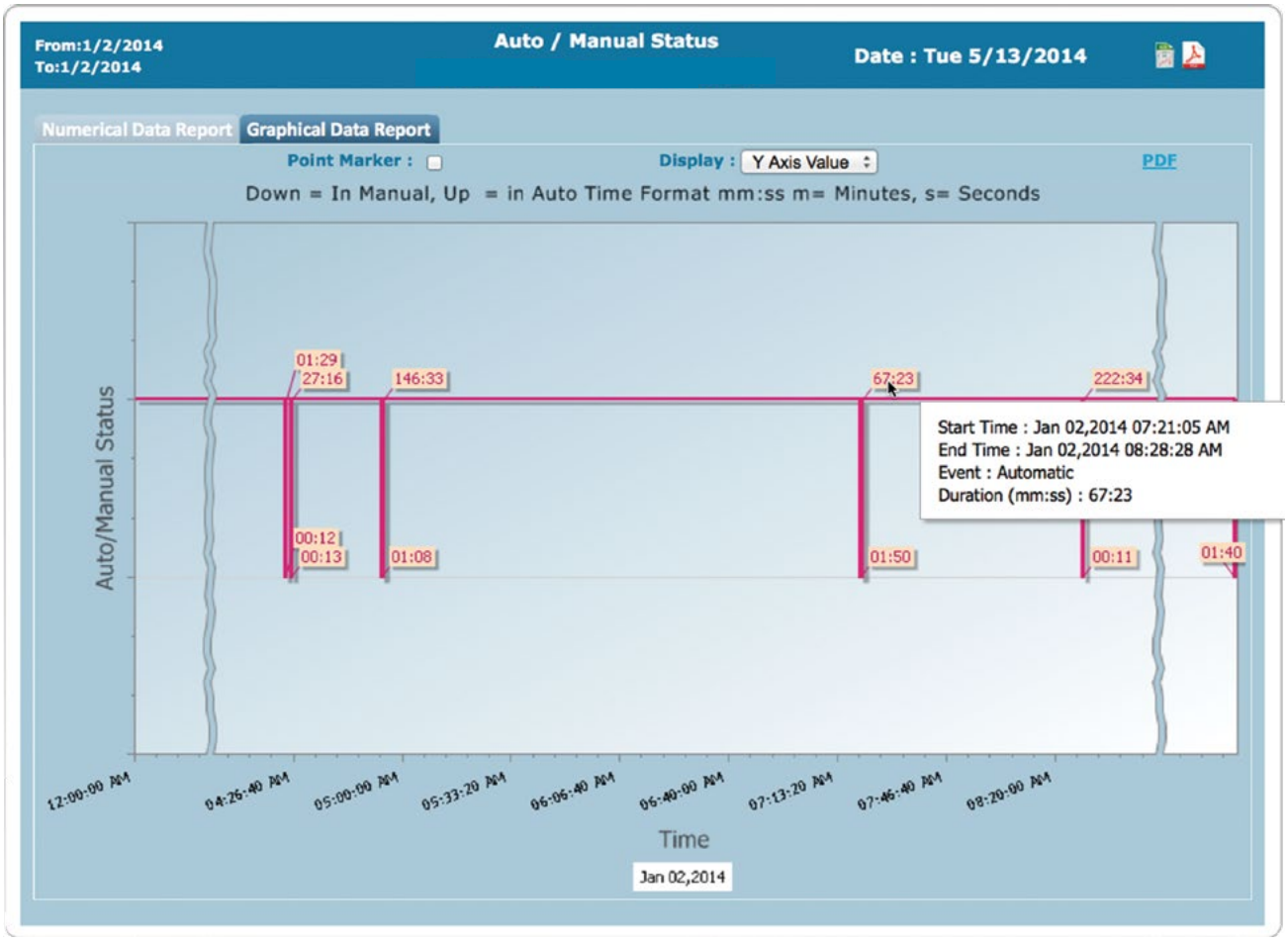


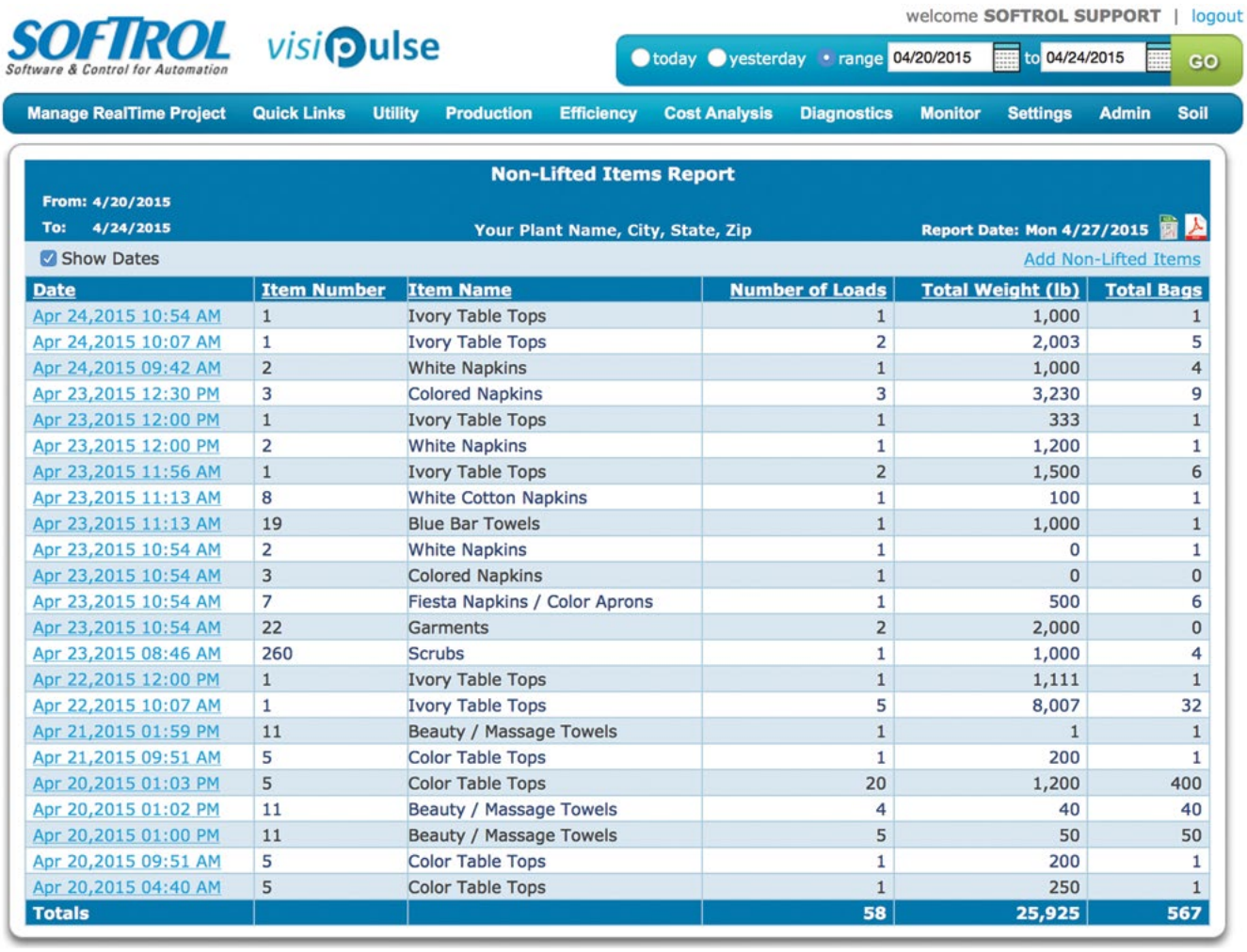
Figure 36. Auto / Manual Status Report. Hover over a data point to get detailed information.

Non-Lifted Items Report

You can generate reports about just your non-lifted items using the Non-Lifted Items Report option on the Soil menu. Use the date selection options at the top of the page to adjust your report dates (see “Setting the Date Range” on page 17). By default, the report gives you non-lifted item information grouped by the item for the dates selected. You can get detailed load information by checking the Show Dates checkbox.

With the Show Dates checkbox selected, the system breaks the information into dates and items. If you need further details, you can click the date to open the Add Non-Lifted Items page. The Add Non-Lifted Items page gives you information broken down by the load for that date. For more information about the Add Non-Lifted Items page, see “How To Manage Non-lifted Items Using Web Reports” on page 6.

Use the icons on the report header to save your reports PDF and Excel.



Date	Item Number	Item Name	Number of Loads	Total Weight (lb)	Total Bags
Apr 24,2015 10:54 AM	1	Ivory Table Tops	1	1,000	1
Apr 24,2015 10:07 AM	1	Ivory Table Tops	2	2,003	5
Apr 24,2015 09:42 AM	2	White Napkins	1	1,000	4
Apr 23,2015 12:30 PM	3	Colored Napkins	3	3,230	9
Apr 23,2015 12:00 PM	1	Ivory Table Tops	1	333	1
Apr 23,2015 12:00 PM	2	White Napkins	1	1,200	1
Apr 23,2015 11:56 AM	1	Ivory Table Tops	2	1,500	6
Apr 23,2015 11:13 AM	8	White Cotton Napkins	1	100	1
Apr 23,2015 11:13 AM	19	Blue Bar Towels	1	1,000	1
Apr 23,2015 10:54 AM	2	White Napkins	1	0	1
Apr 23,2015 10:54 AM	3	Colored Napkins	1	0	0
Apr 23,2015 10:54 AM	7	Fiesta Napkins / Color Aprons	1	500	6
Apr 23,2015 10:54 AM	22	Garments	2	2,000	0
Apr 23,2015 08:46 AM	260	Scrubs	1	1,000	4
Apr 22,2015 12:00 PM	1	Ivory Table Tops	1	1,111	1
Apr 22,2015 10:07 AM	1	Ivory Table Tops	5	8,007	32
Apr 21,2015 01:59 PM	11	Beauty / Massage Towels	1	1	1
Apr 21,2015 09:51 AM	5	Color Table Tops	1	200	1
Apr 20,2015 01:03 PM	5	Color Table Tops	20	1,200	400
Apr 20,2015 01:02 PM	11	Beauty / Massage Towels	4	40	40
Apr 20,2015 01:00 PM	11	Beauty / Massage Towels	5	50	50
Apr 20,2015 09:51 AM	5	Color Table Tops	1	200	1
Apr 20,2015 04:40 AM	5	Color Table Tops	1	250	1
Totals			**58**	**25,925**	**567**

Figure 37. Non-Lifted Items Report.

In Application Reports

The application also has built-in reporting. You can access this data directly from the Lift or Call-off PCs. Or you can use VNC to log into them and access these reports. Be careful to only do this when the lift or call-off computers are not in use by production teams. To access the reports click the *Reports* tab. The *Reports* tab defaults to the **Lifted Bag Report**.

Lifted Bag Report

The Lifted Bag Report provides date and time, item, lot, customer, weight, and rail information for each bag (see Figure 38.

1. Use the **Today** or **Period** button to select your date or date range for the report.
2. Select either **All bags** or **Bags out of weight range**.
3. View the lifted bag details in the **Lifted Bags** data field
4. Sort the data using the **Sort By** radio buttons.
5. Get grouped totals based on your **Sort By** selection in the smaller report field.
6. Click the **Read** button to view all the bags currently in the system in the **Bags in the System** data field.

Dropped Bag Report

The *Dropped Bag Report* (see Figure 39) gives you the information on what left the storage area and went to the wash aisle. To access this report click the purple **Dropped Bags** button on the *Reports* tab (See number 9 on Figure 38).

1. Use the date selection button to select a specific date or a range of dates.
2. Get your total load, bags, weight, and hourly output from the report totals section.
3. View dropped bag details in the data field on the left.
4. Sort and group your data by using the radio buttons in the **Sort by** section.
5. View your grouped **Sort by** results in the data field on the right.

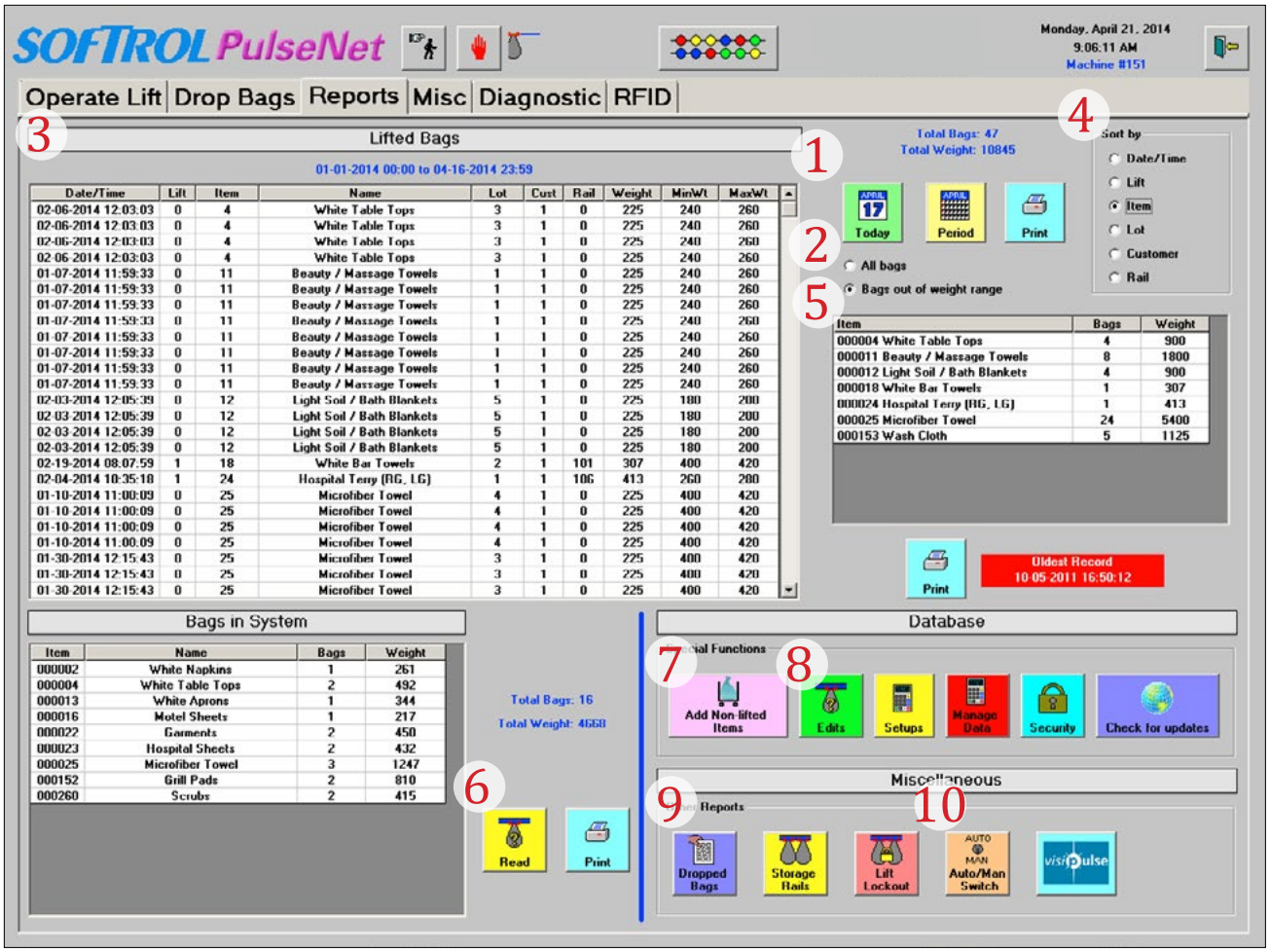


Figure 38. Reports Tab. 1. Date Selection Buttons for Lifted Bag. 2. All, or out of weight range bags for Lifted bag. 3. Lifted Bag data. 4. Lifted Bag Sort By. 5. Lifted Bag sort by totals. 6. Bags in System report. 7, Add non-lifted items, and view non-lifted item entries by date. 8. Edited Bag Report. 9. Dropped bag report. 10. Auto/Manual switch report.

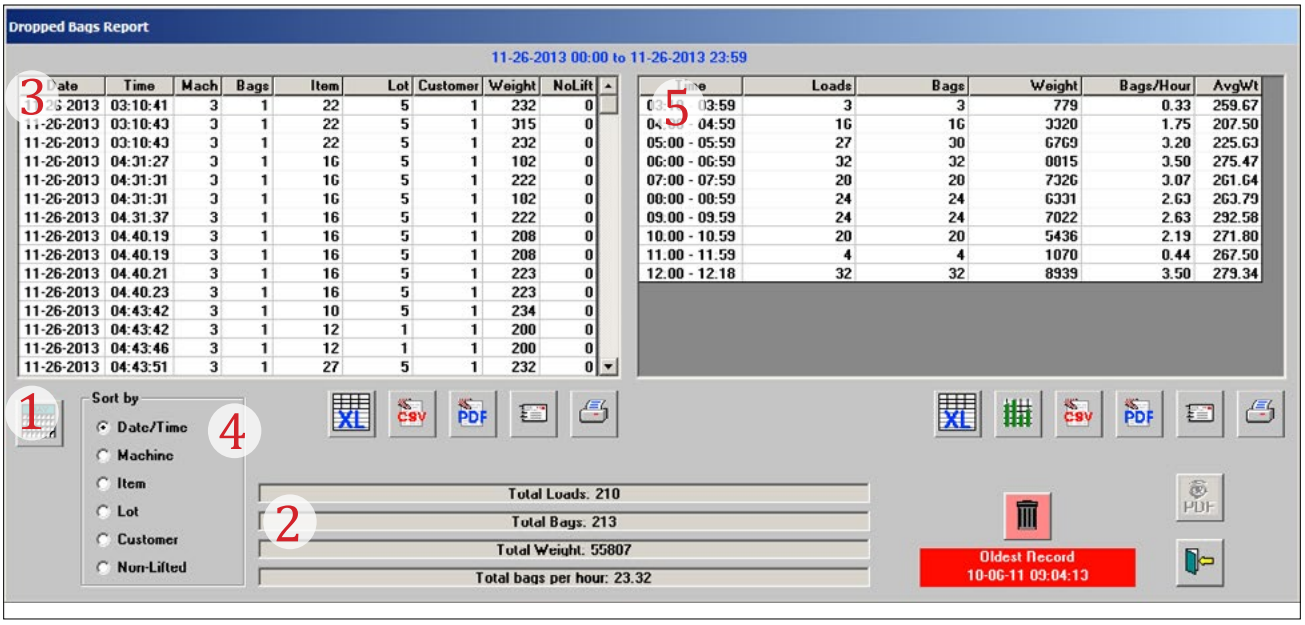


Figure 39. Dropped Bags Report. 1. Date Selection Button. 2. Report totals based on date selection. 3. Dropped Bag data. 4. Dropped Bag Sort By. 5. Dropped Bag grouped totals.

Other Reports

Non-Lifted Items

Using the application reports, you can also access reports about non-lifted items (see Figure 38 number 7) using the pink **Add Non-lifted Items** button. Use the **View Additions** button on this page to see added items by date. You can also add and delete non-lifted items using this report. It is recommended that you use the Web Reports Add Non-Lifted Items page for managing your non-lifted items (see "How To Manage Non-lifted Items Using Web Reports" on page 6).

Edited Bags Report

The *Edited Bags Report* (See Figure 38, number 8) gives bag data for the bags that someone edited after they entered the bags into the system. For an easier to read report see the Web Reports option on page 15.

Auto/Manual Switch Report

The *Auto/Manual Switch Report* (see Figure 38, number 10) report records the exact time the system goes into or out of manual or automatic mode.

1. Use the date selection button to select a date or date range.

2. View the transitions from manual to automatic in descending order (see Figure 40).

The web report gives a graphical view of this report (see Figure 36).

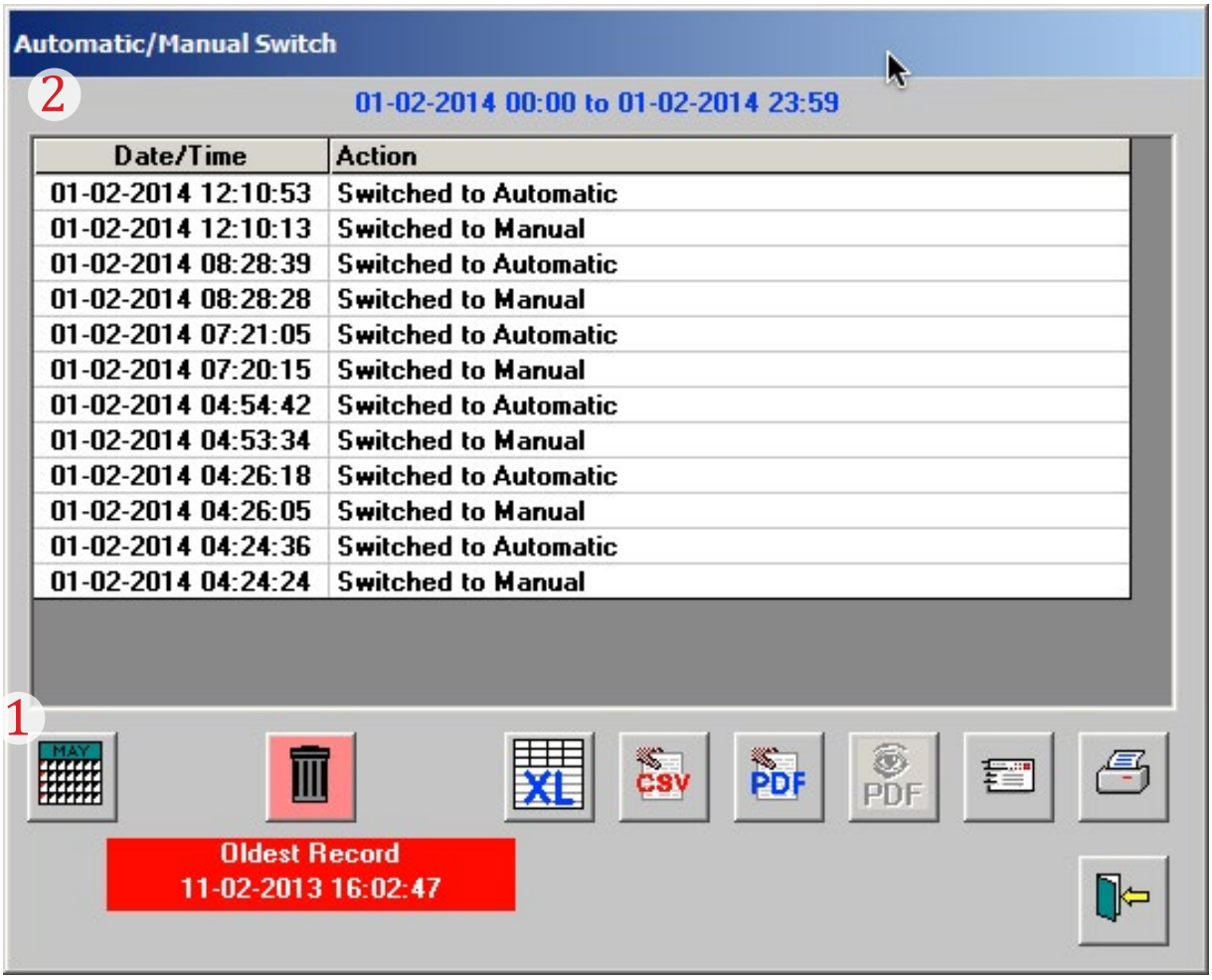


Figure 40. Automatic/Manual Switch Report. 1. Date Selection Button. 2. The transitions from manual to automatic.

Adjusting the Dropped Bag Data

Virtual Rail gets its soil poundages from the lift station(s) and the non-lifted items manual entered into the system. The system converts the poundage to dropped, (i.e., washed) pounds when the bags pass an RFID sensor or when you make a load using the View Rails screen. Using the Virtual Rail system to lift your soil gets you accurate weights. The system does not make any estimations of your soil weights. Occasionally the question arises, "Why doesn't the poundage in my Virtual Rail reports match that of my chemical systems?" That is a very good question, and it is a reason for concern. If you discover a difference between systems or feel that your poundage is inaccurate, you should consider the following possible causes:

- **Operating in manual mode**
  For Virtual Rail to have accurate weights, your team needs to use it. If you bypass the system using manual mode, even for short durations, you will have inaccurate reports. While your system is in manual mode, it does not record your soil poundage. Check your Auto/Manual Status report to verify that your staff uses the system properly.

- **Non-lifted items not entered**
  Verify that you have entered all of the non-lifted items for the reporting period. If your other system is estimating poundage based on number of loads, it is capturing your non-lifted items. Entering your non-lifted items will give you accurate totals. For more information see "How To Manage Non-lifted Items Using Web Reports" on page 6.

- **Non-lifted items not entered correctly**
  When adding non-lifted items do not estimate the weights; instead, use the true weights. To get true weights take your carts of mats or other non-lifted items to the scale and weigh them. For more information on entering non-lifted items see "Manage Non-lifted Items Using Web Reports" on page 6.

- **Actual pounds versus standard or estimated pounds**
  Look at the methods the other reports use to get their values. Most likely, you have a situation where the other reporting method uses a standard load size. These reporting methods cannot account for under or overweight loads; therefore, your Virtual Rail reports will not match the estimated report data. Consider the following example:

  If a load of bar mops for a four pocket washer has a standard load weight of 1000 LBS and the target weight of a bag of bar mops is set to 200 LBS in the Virtual Rail system, then your chemical system report for that one load is 200 LBS greater than what you actually washed (see Figure 41).

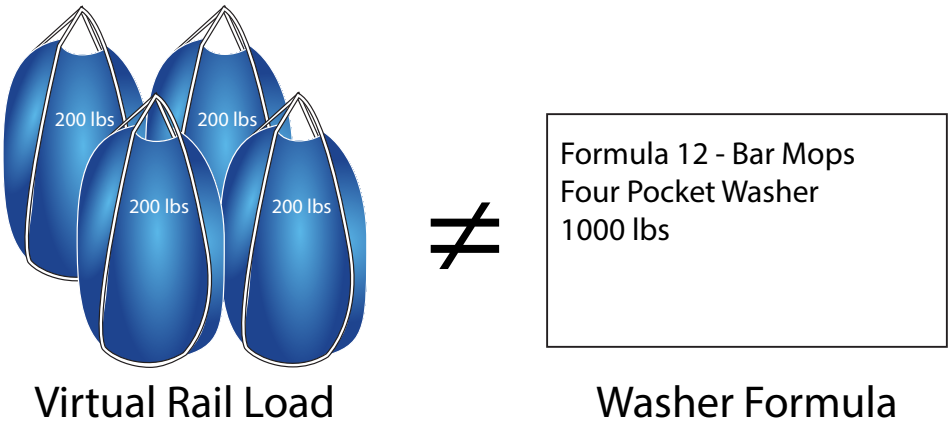


Figure 41. Virtual Rail uses actual weight for its reports, where other methods use standard load weights.

- **Mixed loads**
  If you load a four pocket machine with mixed loads, i.e., four different items, and you use a formula that has a designated standard weight different than the combined weight of the four items, the chemical system will report a different weight than the Virtual Rail system.

- **Restarting loads**
  When you restart a load to change the formula, it is possible that the chemical system or washer control counted the load twice: once under the old formula and once under the new formula. If you use a Softrol controller, you have two methods for aborting a formula: one ends the formula giving complete credit for the load, the other ends the formula as "canceled load." You have the option of including or excluding canceled loads in many of the MicroPulse reports. For detailed instructions on canceling a load, see "Canceling Formulas on MicroPulse Washer Controls" on page 29.

- **Entering bags through the View Rails screen**
  The system allows for the addition of bags using the View Rails screen in the Virtual Rail program. Bags entered using this method show up on the View Rails screen with a white circle outline (see Figure 42). These bags do not get entered into the system with an RFID tag. The system will not automatically call-off these bags, so the bags may have gone to the wash aisle without Virtual Rail knowing. The bag will remain in storage until you manually call-off the bag.

  It is best that you don't use the View Rails screen for adding bags, but if you do, get the actual weights for the bags you add. If you enter several bags with estimated weights, it impacts your reports. You should only add bags using this method when your hanging storage does not match the storage indicated by the View Rails screen, and you should never use the View Rails screen to add your non-lifted items.

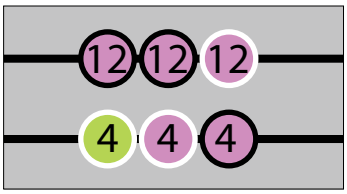


Figure 42. White circles around bags on the View Rail Screen.

- **RFID issues**
  If your plant processes bags quickly, and the bags return to the lift earlier than the system expects, the system may reassign the RFID tag to the new bag without updating the previous bag to washed status. The old bag, although washed, will remain in stored status. These bags appear with white circles around them on the View Rails screen (see Figure 42). The system will not automatically call off these bags, so you need to call them off manually. Once called off, the bags appear in the Dropped Bag report. For more information on this issue, see "Bags Not Removed From Storage" on page 33.

- **Wet Soil**
  If your plant stores soil outdoors and it gets wet due to rainfall, you need to adjust your tare weights to account for the additional weight of the water. See "Adjusting for Wet Soil" on page 33 for more information about this problem.

Use the list above to troubleshoot your Dropped Bag reports. If you do not find the solution in this list, you may need to observe your lift operators secretly to see if they follow proper procedure when operating the lift. If you need additional assistance troubleshooting reports contact Softrol Support (see "Get Additional Support" on page 36).

Canceling Formulas on MicroPulse Washer Controls

When you cancel or abort a load on your Softrol MicroPulse washer control, you can end it in two ways: completed load, and "canceled load." If you complete the load, the poundage is included in your MicroPulse reports. If you cancel the load, you have the option to exclude the poundage from your reports. When comparing the weights from the MicroPulse reports with your Virtual Rail Dropped Bag report you need to consider these canceled loads. To ensure that you flag the load as a "canceled load," use this procedure:

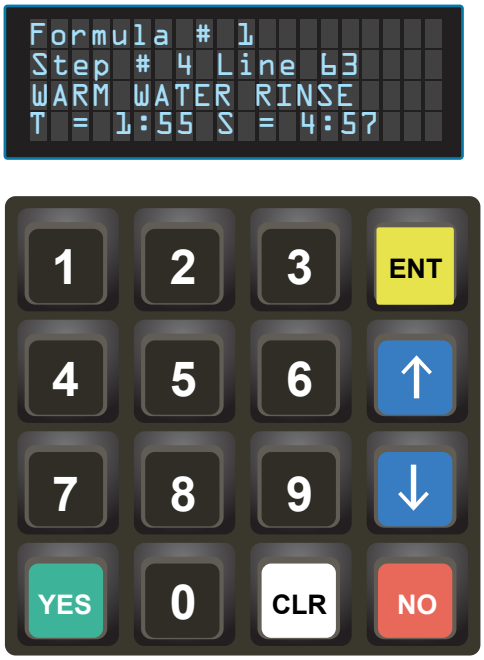


Figure 43. MicroPulse Display and keyboard before beginning the cancel formula procedure.

1. Pause the formula by pressing the **NO** button on the MicroPulse control. Before pausing the formula, your display will look similar to the display in Figure 43. When paused, your display will show "Paused" on the third line (see Figure 43).

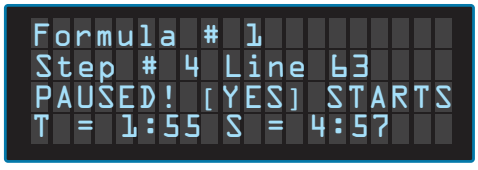


Figure 44. MicroPulse Display in Paused mode.

2. Key in any of the level one through seven passwords. Once you have keyed in the password, proceed to step 3. You have just a few seconds to key in the next command.

3. Press the **NO** and **ENT** keys simultaneously. The display will show, “Waiting for Washer to unload!” (see Figure 45).

Figure 45. MicroPulse Display after canceling load.

4. Press the **YES** key to continue. Once successfully canceled the display will show, “Waiting for Washer to Receive Load!!” (see Figure 46).

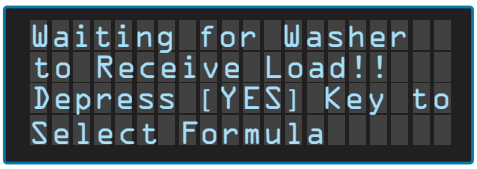


Figure 46. MicroPulse Display after canceling load.

Canceling a load in this fashion flags the load as “canceled load.” Many of the MicroPulse reports have an option to exclude or include these canceled loads (see Figure 47). When using these reports to pull plant production pounds, do not include the canceled loads.

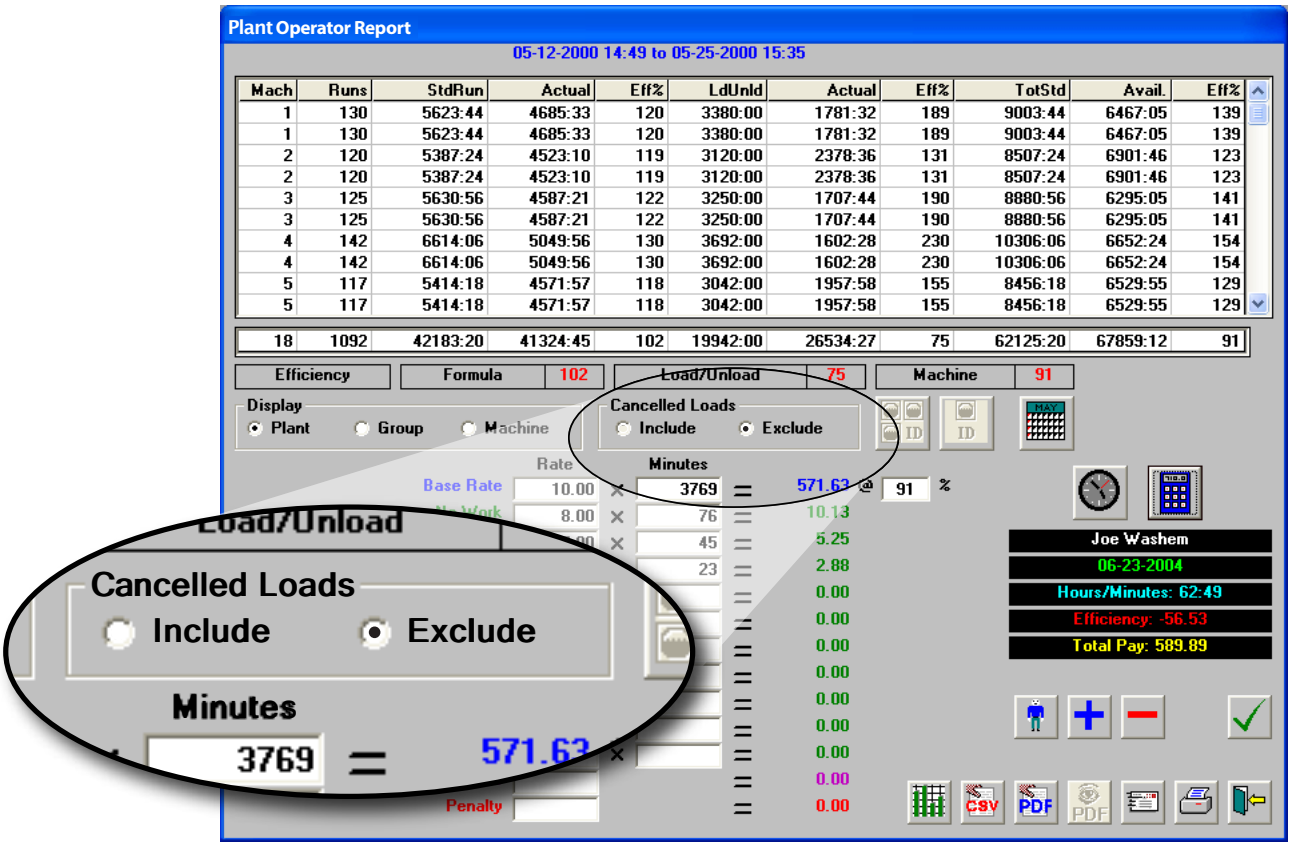


Figure 47. Plant Operator Report: Include and exclude canceled loads.

Troubleshooting

The following section steps you through some basic troubleshooting, and it gives you information about indicator lights and their meanings.

ARCNET Communication Error (150 Error)

If you see a red blinking "no" symbol with the number 150 on the menu bar, you have an ARCNET communication problem. The communication between the processor card and the computer have stopped (see Figure 48). To troubleshoot this problem:

Figure 48. ARCNET Communication Error.

1. Verify that the control cabinet has power; when the cabinet is receiving power and the system is on, an external indicator light is illuminated. If not illuminated, turn on the power to the cabinet.

2. Open the cabinet door. If you do not see lights illuminated on the various circuit boards inside the cabinet, locate the power box (a small black box with a single toggle switch) and flip the switch to the "on" position.

3. Looking at the back of the computer (attached to the inside door), verify that the cable labeled ARCNET is secure in the port marked "ARCNET."

4. Check the other end of the ARCNET cable to make sure it is plugged securely into the processor card.

5. Check the DIP switches on the board.

   a. Verify that the DIP switches are set to 150 in binary: 10010110 (on, off, off, on, off, on, on, off).

   b. Adjust the switches if necessary (see Figure 49).

   c. Cycle the power on the box (see step 2).

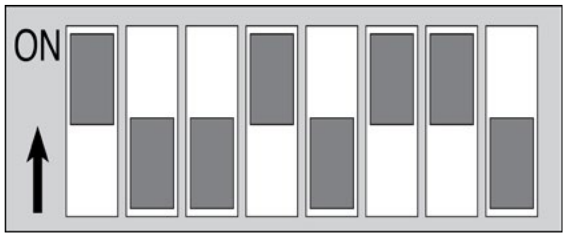


Figure 49. DIP switch settings for binary 150. The dark square indicates the position of the slider switch or the depressed rocker.

6. Verify that the ARCNET addresses match in the computer and in the Virtual Rail software.

   a. Select **Setup> Configure Port** from the Virtual Rail menu (see Figure 50).

   b. Select **ARCNET Type 2.**

   c. Record the four digit value in the **IO Address** field, and verify the **PC ID #** is set to **"255."** *Note: The PC ID # in most cases is 255 for Virtual Rail systems, but in some rare exceptions and in multiple lift systems the PC ID # may have a different value.*

d. Press the button with the computer icon to open the computer's *Device Manager*.

e. Locate **CCSI** and double click (see Figure 51).

f. Select the **Resources** tab

g. Locate **I/O Range** (the second **I/O Range** in the list) in the **Resource Settings** list.

h. Verify that the first four digits match the **I/O Address** in the **Configure Ports** dialog in the Virtual Rail software.

7. Get additional information about ARCNET and troubleshooting on the Softrol Support website.

8. If the troubleshooting steps didn't solve the ARCNET communication problem call for support. See page 25 for support options.

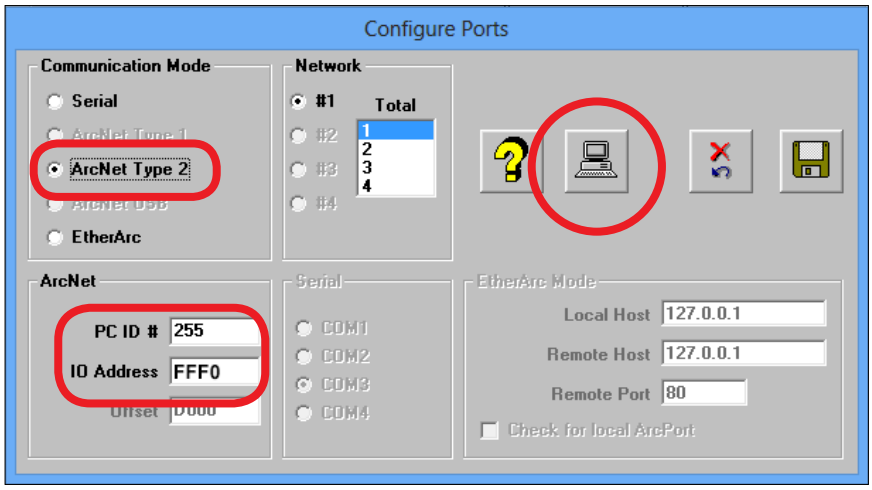


Figure 50. Configure Ports. Verify PC ID # is set to 255, write down the IO Address, and press the computer icon button to open Device Manager.

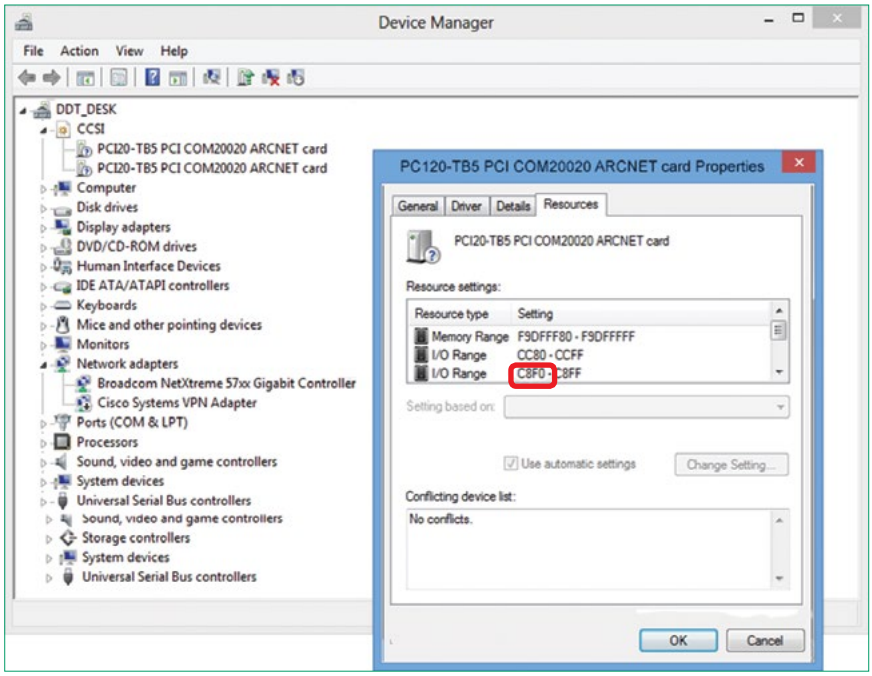


Figure 51. Windows Device Manager settings

Failing Lift Detection

Failing electronic eyes can result in the Virtual Rail software not recognizing a lifted bag. To troubleshoot and electronic eyes:

- Check to make sure the power is on to the electronic eye.
- Check to see if the trip indicator light is on; if so, clean the lens.

Bags Not Removed From Storage

Occasionally a bag remains in stored status although it went to the washer. The error happens when the trolley returns to the lift station too quickly. The system has a failsafe that prevents a bag from getting called off when the bag rolls by an RFID antenna a second time in quick succession. Depending on your plants configuration, quick succession might mean more than once in ten minutes or an hour; each plant is different. Because of this failsafe, when a bag returns to the lift station before its time allowance is over, it never gets called off. The number associated with its RFID number gets reassigned to a new bag, leaving the old bag without an RFID number. The system thinks the bag is in storage, so it never updates it to washed status. These bags have white circles around them when displayed on the View Rails screen. If your plant cycles trolleys quickly, you might see this issue. It is a simple fix, but it requires a Softrol support technician to evaluate the situation and change the settings. See page 24 for information on contacting Softrol Support..

Adjusting for Wet Soil

Some plants store soil outdoors. In some locations, the soil is subjected to heavy or repeated rain showers. To account for this additional water weight, you need to adjust your tare weights to get correct wash and soil data.

The system can accommodate up to four cart types. If your plant isn't using all of the cart types you can use one or more of the cart types to create a cart for wet soil.

1. Open *Setup> System Defaults*
2. Enter Master Password (see page 3).
3. Locate the **Floor Scale Section** at the bottom of the page
4. Select a **Cart Type** without a value.
5. Name it to something meaningful (such as "Wet Soil").
6. Enter the tare weights for one and two bags accounting for the additional water weights.
7. Click **Save**.
8. Exit the Virtual Rail program and relaunch prior to returning control to lift operator (see Figure 52).

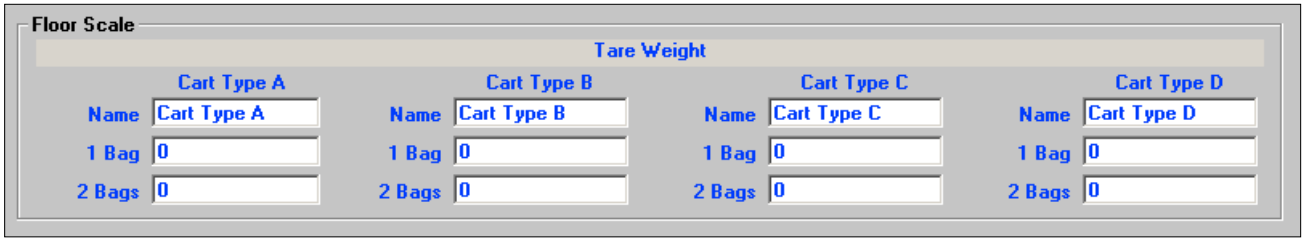


Figure 52. Tare weight settings at the bottom of the System Defaults screen.

RFID Reader Indicator Lights

If RFID doesn't appear to be working check the LED indicator light on the RFID Reader.

Light Behavior	Status	Actions
Green: Flashing	Normal	None required
Yellow/green: solid	Cycling on	Wait for the system to boot-up. If this persists for more than four or five minutes cycle the power again.
Amber/yellow: solid	Failing	• Check for loose connections. • Cycle the power
Red: Solid	Failed	• The reader is not working. Check for incorrect or loose connections. • Cycle the power. • Replace the reader.
No light	No power	• Check power source

Control Board Indicator Lights

The lights on the control board can be useful when troubleshooting (see Figure 53).

Light	Behavior	Description	Action
Bag Clear	On: solid	Bag has moved off the lift headed for storage	None
	Off	Bag lifted has not passed RFID Sensor	• Move bag to storage • Check RFID system
Reset Light	On: solid	Working properly	None
	Flashing	System needs reset	Cycle the system power
Communication	On: solid	Communications working correctly	None
	Flashing	Communication failure	Troubleshoot your ARCNET network (see page 19).
Power Light	On: solid	System has power	None
	Off	The board is not getting power	• Verify that power switch inside control box is on • Verify power to the board • Replace power supply
Lift # at Top	On: solid	The lift is currently up (You can have only one lift in the up position)	• See page 20, *Lift Detection is Failing*, to troubleshoot the electronic eye sensors on the lift.
	Off	The lift is not at top	
Lift Enabled	On	The lift switch is active	
	Off	The lift switch is inactive	

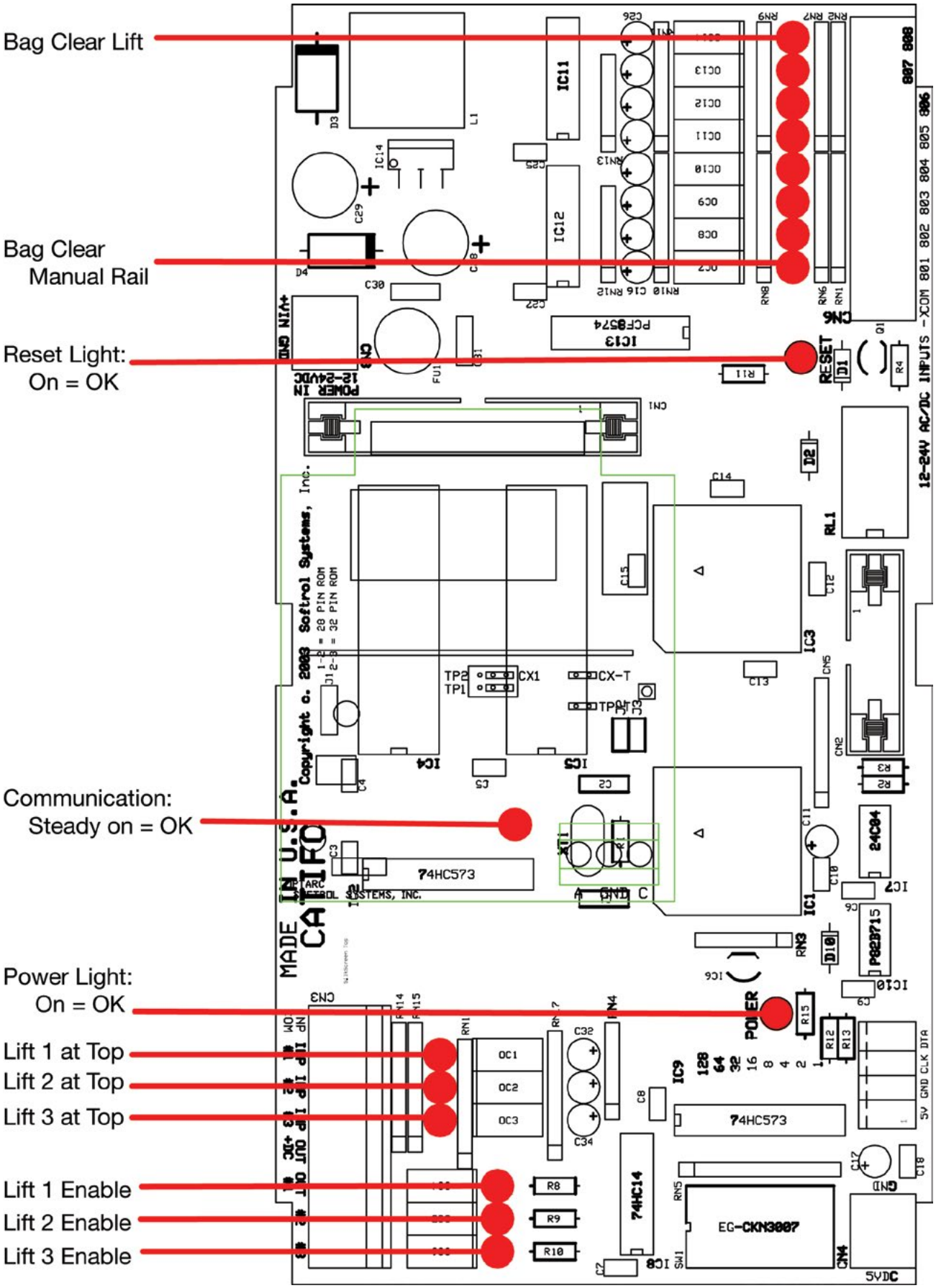


Figure 53. Virtual Rail control board indicator lights.

Scale Settings

Your Virtual Rail system receives information from a digital weight indicator. The indicator must have the proper settings to communicate the information. Use the settings in Figure 54 for the Rice Lake IQ Plus® 355 weight indicator.

Refer to the IQ Plus® 355 manual, section 3 *Configuration,* for complete configuration instructions.

RS-232 Communications Settings

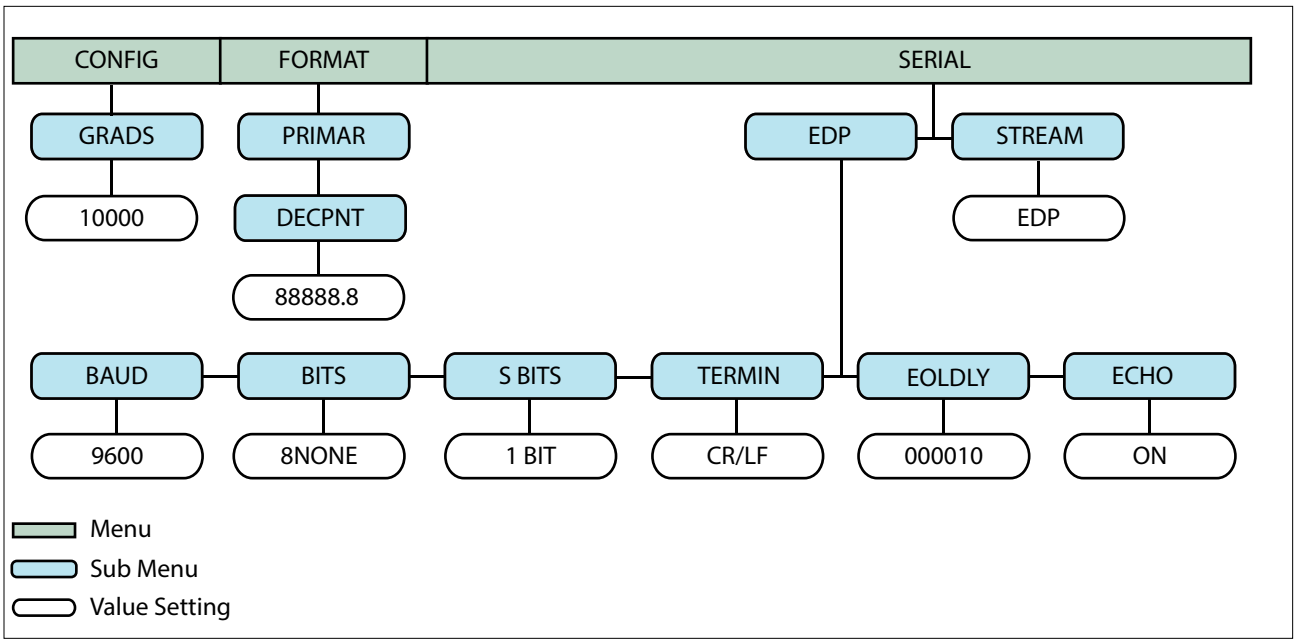


Figure 54. Settings for the serial connection between Virtual Rail and the Rice Lake IQ Plus® 355 weight indicator.

Get Additional Support

Softrol offers three levels of support to give you the right support at the right time to best suit your automation and information needs.

- **24 Hour Service Support**: for 24/7/365 service support, you can reach us at 1-877- 241-7679 or email support@softrol.com.

- **Online Support**: Get free access including manuals, knowledge base, and automation FTP downloads at support.softrol.com. Requires a password, if you do not know your support user ID and password contact 24 Hour Service Support.

- **Site License**: The Site license subscription provides unlimited 24/7 support, upgrades, enhancements and optional site inspection for Softrol's information networks. The Site License includes Total Plant Management, business analytics, and information system.

Replacement Parts

For replacement parts contact Softrol's Parts Department between the hours of 8:30 a.m. and 5:30 PM EST at 1-888-763-8765 (888-SOFTROL) ext. 110 or email parts@softrol.com.
A Return Merchandise Authorization (RMA) is required to return a part for repair or credit. To request an RMA call 1-888-763-8765 (888-SOFTROL) ext. 122 or email RMA@softrol.com.

N Male Crimp Connector
Part No. EP-COAZ-RG8-N
Description:
RFID connector for RG8(LMR 240) Coax, TCN Str_Reader Side

Reverse Polarity TNC Male Crimp Connector - LMR240
Part No. EP-COAZ-RG8-TNC-RP
Description:
RFID connector for RG8(LMR 240) Coax, TCN Str_Reader Side

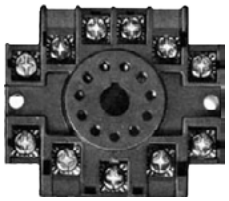
Control Cabinet
Part No. MP-41-VB-TS-02
Description: Assembly includes

- Part No. BoxF-24X20X8 Box fiberglass 24" X 20" X 8"
- Part No. COMPUTER-PC-PACKAGE-SOILRAIL OptiPlex XE2 SFF w/o monitor
- Part No. MP-41-VB-TS-02-ELE Electronics for virtual bag transfer to storage control

2C Relay Output Board, 8 Channels
Part No. E3-REL8
Description:
I2C relay output board, 8 channels

ARCNET Adapter
Part No. Er-OPTARC-TP
Description:
ARCNET Adapter for OPTPRO & CATIFC (TP only)

Pilot Light
Part No. SW-PILOT-22MM-024V-BLUE
Description:
Pilot light, 22mm, 24 volt, blue (LED)



Relay Base
Part No. RLY-CC-OT11-PC
Description:
Relay base - (custom connector) 11 pin octal

Electronic Multi-function Timer
Part No. TIMER-B846-500
Description:
Electronic multi-function timer 24 -240VAC and 24VDC

Photoelectric Diffuse Reflective Tubular, Threaded Infrared
Part No. SENSOR-DIF-100MM-BAR18P
Description:
Sensor, diffuse, 100mm range, 18mm plastic barrel, 30ft lead

21.5" Computer Touch Screen
Part No. COMPUTER-TOUCH-SCREEN-21.5"
Description:
Computer touch screen 21.5" LED

PULS Switching Power Supplies, Dimension Series
Part No. PS-PULS-CS10.241
Description:
Power Supply, 24VDC at 10A, 100-240 VAC

3 Inch Fan
Part No. FAN-24VDCX3INCH
Description:
Fan, 24 VDC, 3 inch, Maglev Bearing

Catalyst Interface Controller Board
Part No. E3-CATIFC
Description:
catalyst interface controller board w/o programed software

RFID Antenna
Part No. RFID-ANTENNA-UHF-MOBILEMARK-8
Description:
RFID antenna, 915MHZ, 7DBIC, 8.25 SQ. inch

RFID Tag
Part No. SOFTID-A
Description:
RFID-UHF tag assembly

RFID Tag Reader
Part No. RFID-READER-ISO18000-4 CHAN.
Description:
RFID Tag Reader, ISO18000-4-Channel

Call-off PC
Part No. PC-THIN-CLIENT-4
Description:
Call-off station PC

Call-off Assembly
Part No. Pc-Calloff-01
Description: Assembly includes:

- Part No. 4050236
  Machine screw SS # 8-32 X 1/2 panhead phillips
- Part No. COMPUTER-MOUNT-VESA-100-FLAT
  Monitor mount, vesa, flat
- Part No. COMPUTER-PC-POWER-STRIP
  Ac power strip, 6 outlet, w/surge suppressor
- Part No. COMPUTER-TOUCH-SCREEN-21.5"
  Computer touch screen 21.5" LED
- Part No. MOUNT-ENCL-MITX
  Mount kit for M350 display brackets for monitor
- Part No. MOUNT-PC-CALLOFF-01
  Mount for PC-CALLOFF-01
- Part No. MOUNT-PC-TOUCHSCREEN
  Floor mount pole for TC or PC applications
- Part No. PC-THIN-CLIENT-4
  Call-off PC
- Part No. PPS-STATION-1-MOUNT-SWIVEL
  PPS station 1, mount, swivel, for angled mounts

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1100 NORTHPOINT PKWY. ACWORTH, GA. 30102
PHONE: 770-974-2700 FAX: 770-974-0435

MP-41-VB-TS-04

VIRTUAL BAG TRANSPORT TO STORAGE SCHEMATIC

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SOFTROL
1100 NORTHPOINT PKWY. ACWORTH, GA. 30102
PHONE: 770-974-2700 FAX: 770-974-0435

TITLE / PART NO
VIRTUAL BAG SCHEMATIC

FILE PATH / FILE NAME
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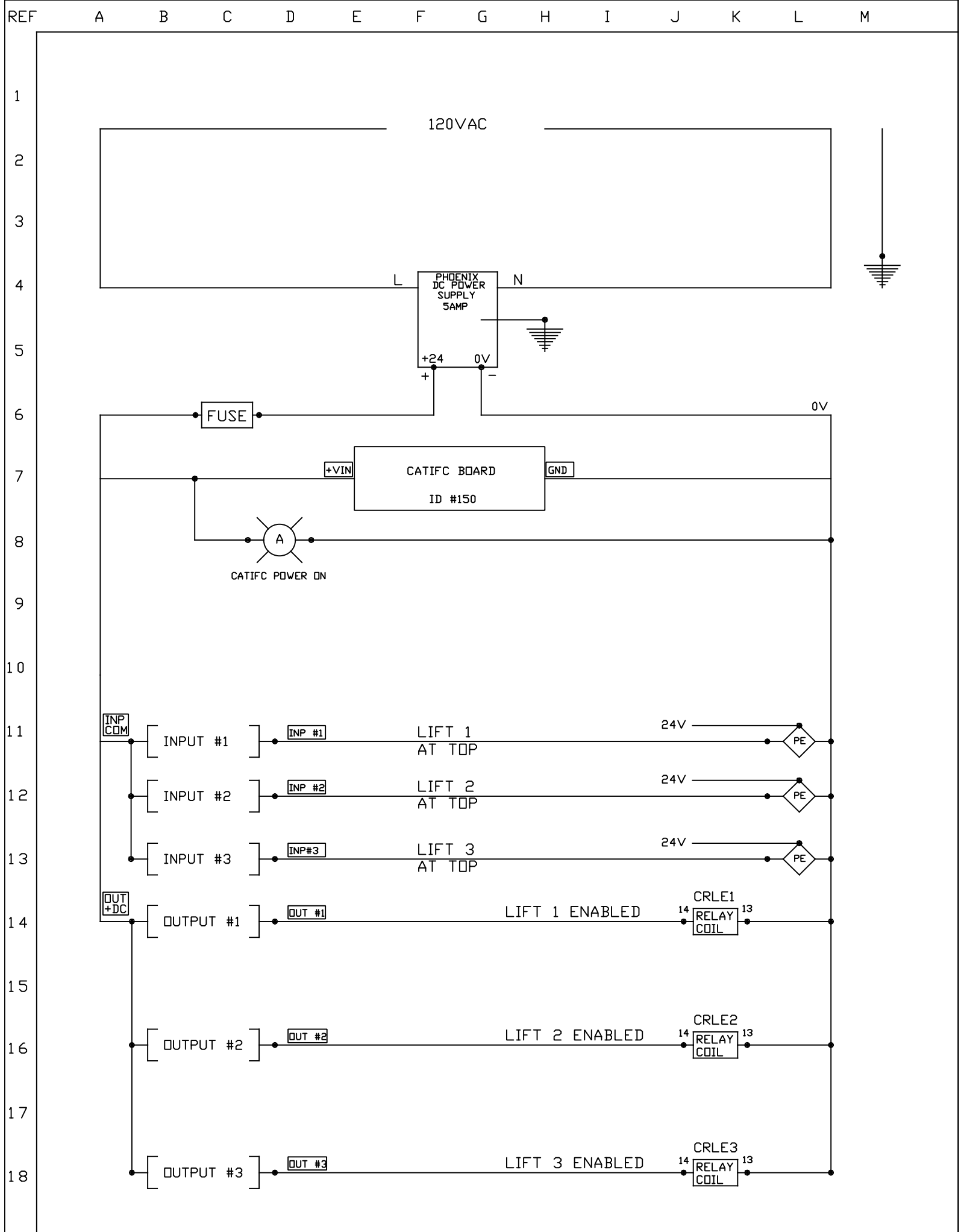
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CATIFC BOARD
ID #150
GND
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CATIFC POWER ON
INP
COM
INPUT #1
INP #1
LIFT 1
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24V
PE
INPUT #2
INP #2
LIFT 2
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PE
INPUT #3
INP#3
LIFT 3
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+DC
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OUT #1
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CRLE1
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OUTPUT #3
OUT #3
LIFT 3 ENABLED
CRLE3
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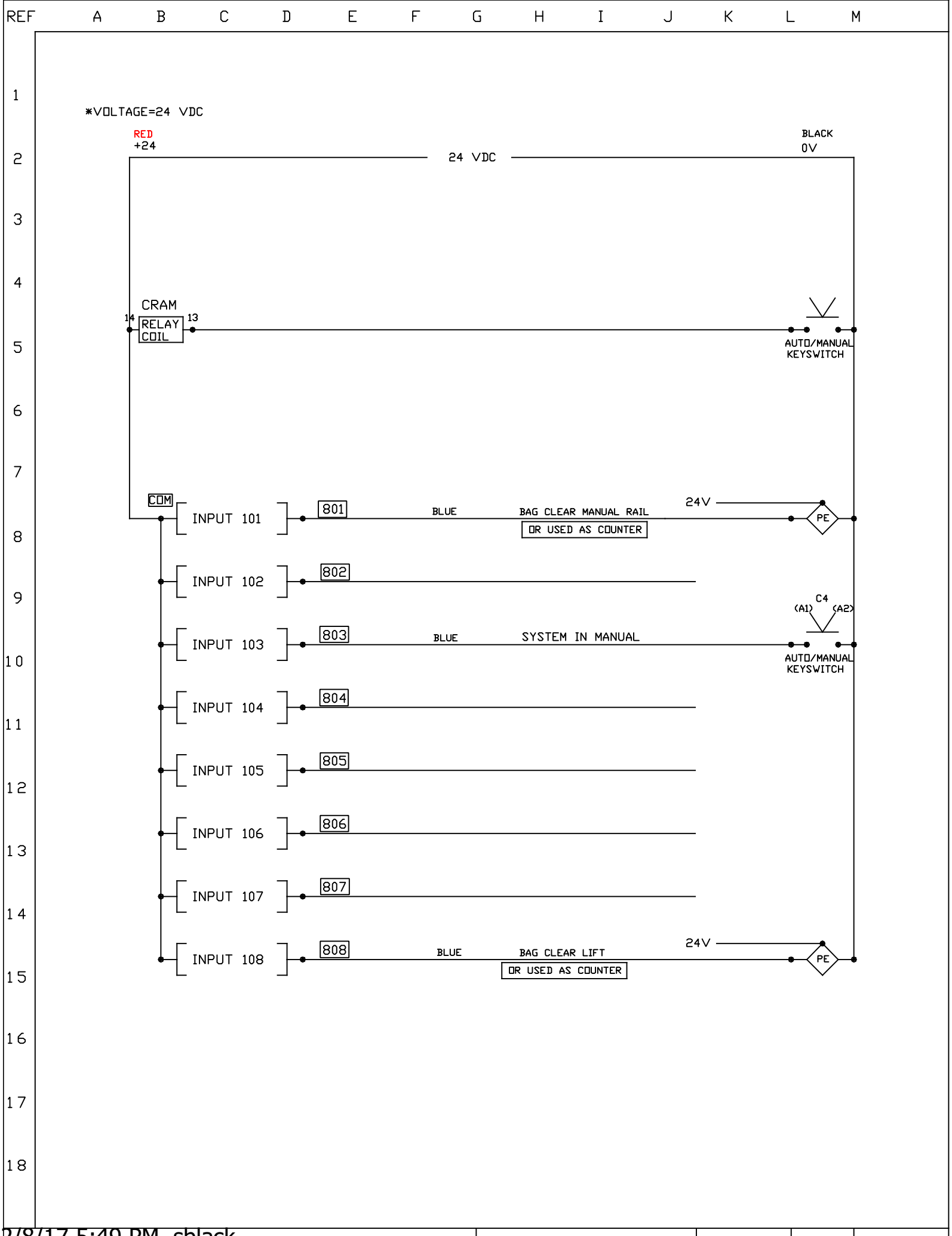
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AUTO/MANUAL KEYSWITCH
COM
INPUT 101
801
BLUE
BAG CLEAR MANUAL RAIL
OR USED AS COUNTER
24V
PE
INPUT 102
802
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SYSTEM IN MANUAL
C4
(A1)
(A2)
AUTO/MANUAL KEYSWITCH
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BLUE
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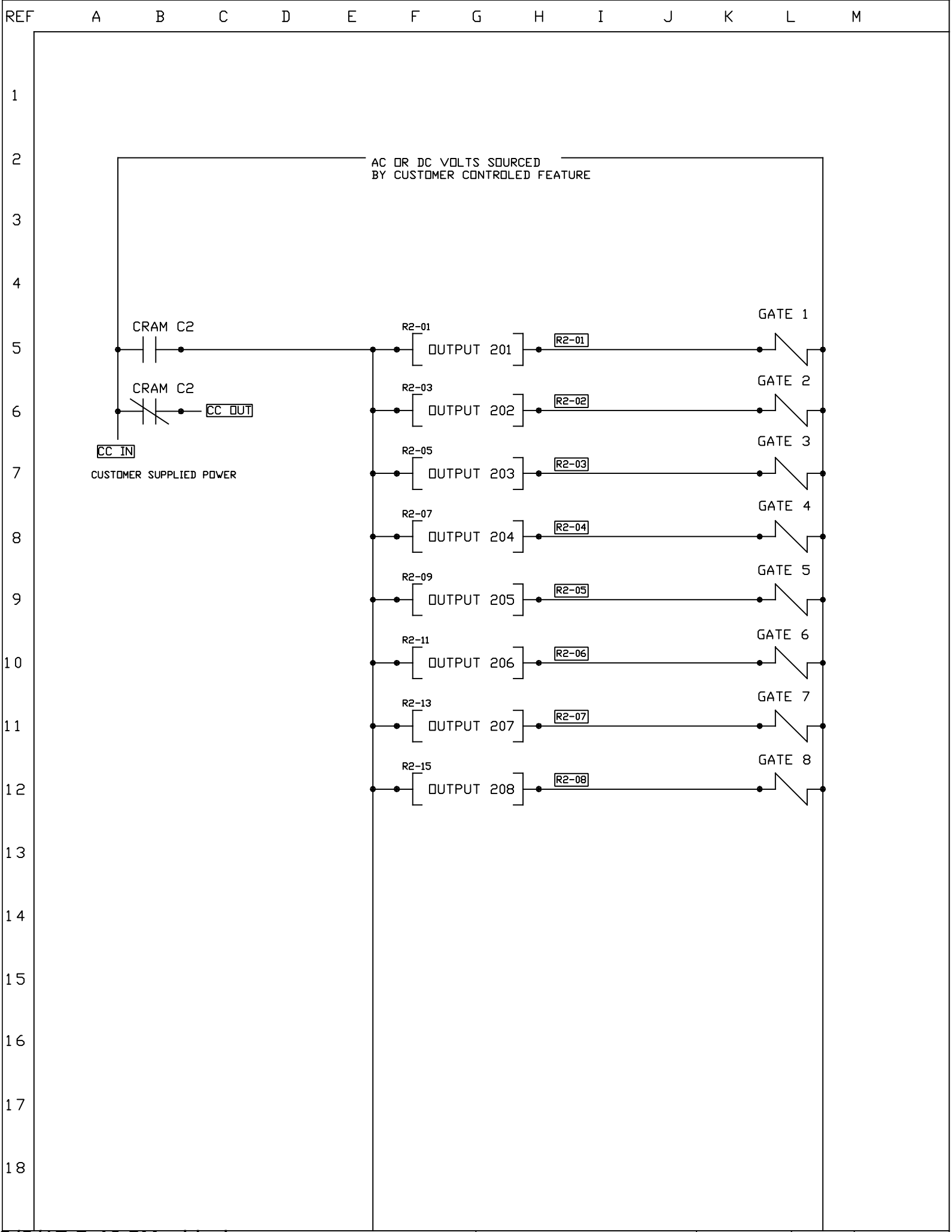
OR USED AS COUNTER
24V
PE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CRAM C2
CC OUT
CC IN
CUSTOMER SUPPLIED POWER
R2-01
OUTPUT 201
R2-01
GATE 1
R2-03
OUTPUT 202
R2-02
GATE 2
R2-05
OUTPUT 203
R2-03
GATE 3
R2-07
OUTPUT 204
R2-04
GATE 4
R2-09
OUTPUT 205
R2-05
GATE 5
R2-11
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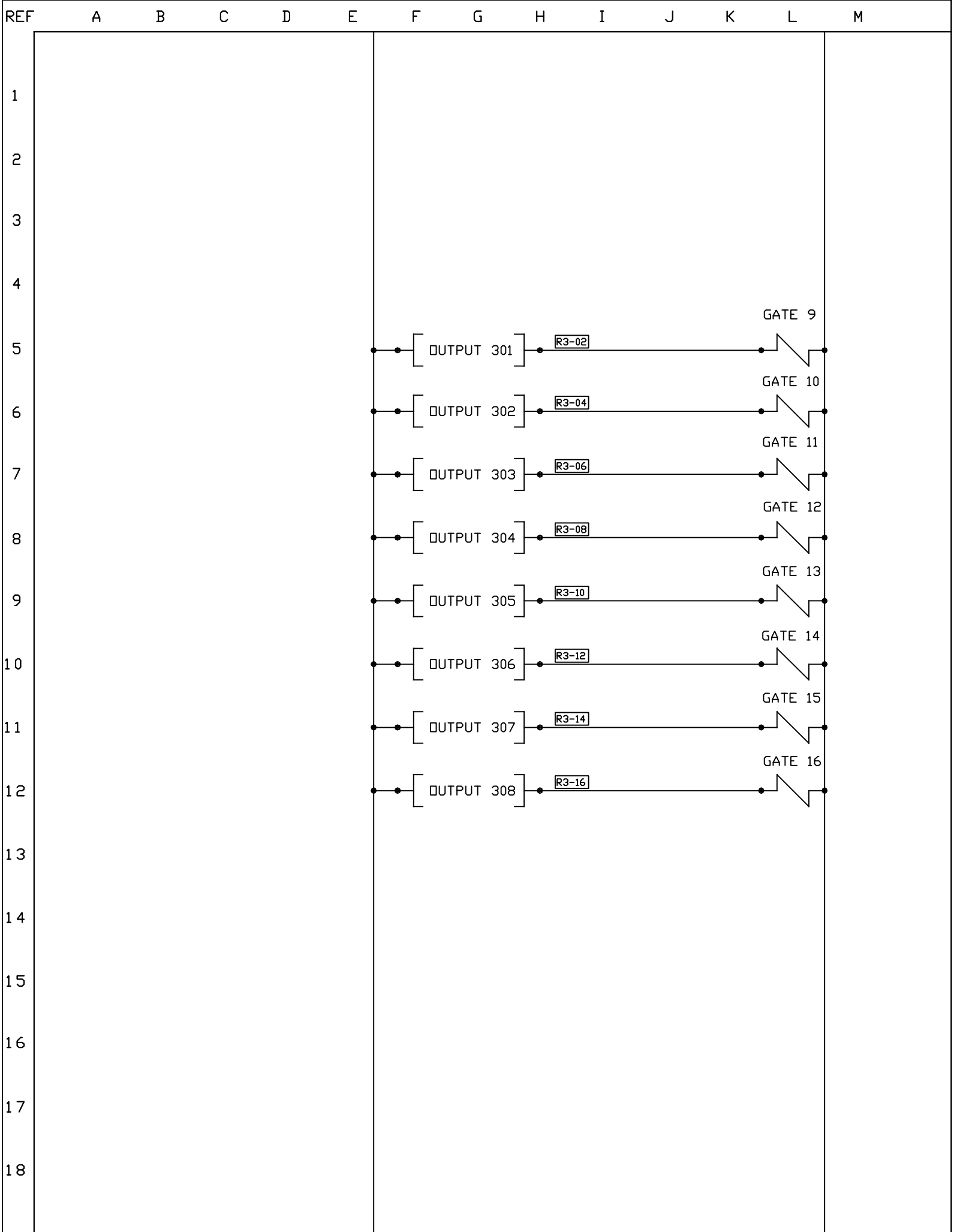
OUTPUT 207
R2-07
GATE 7
R2-15
OUTPUT 208
R2-08
GATE 8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OUTPUT 301
R3-02
GATE 9
OUTPUT 302
R3-04
GATE 10
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R3-06
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R3-08
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GATE 15
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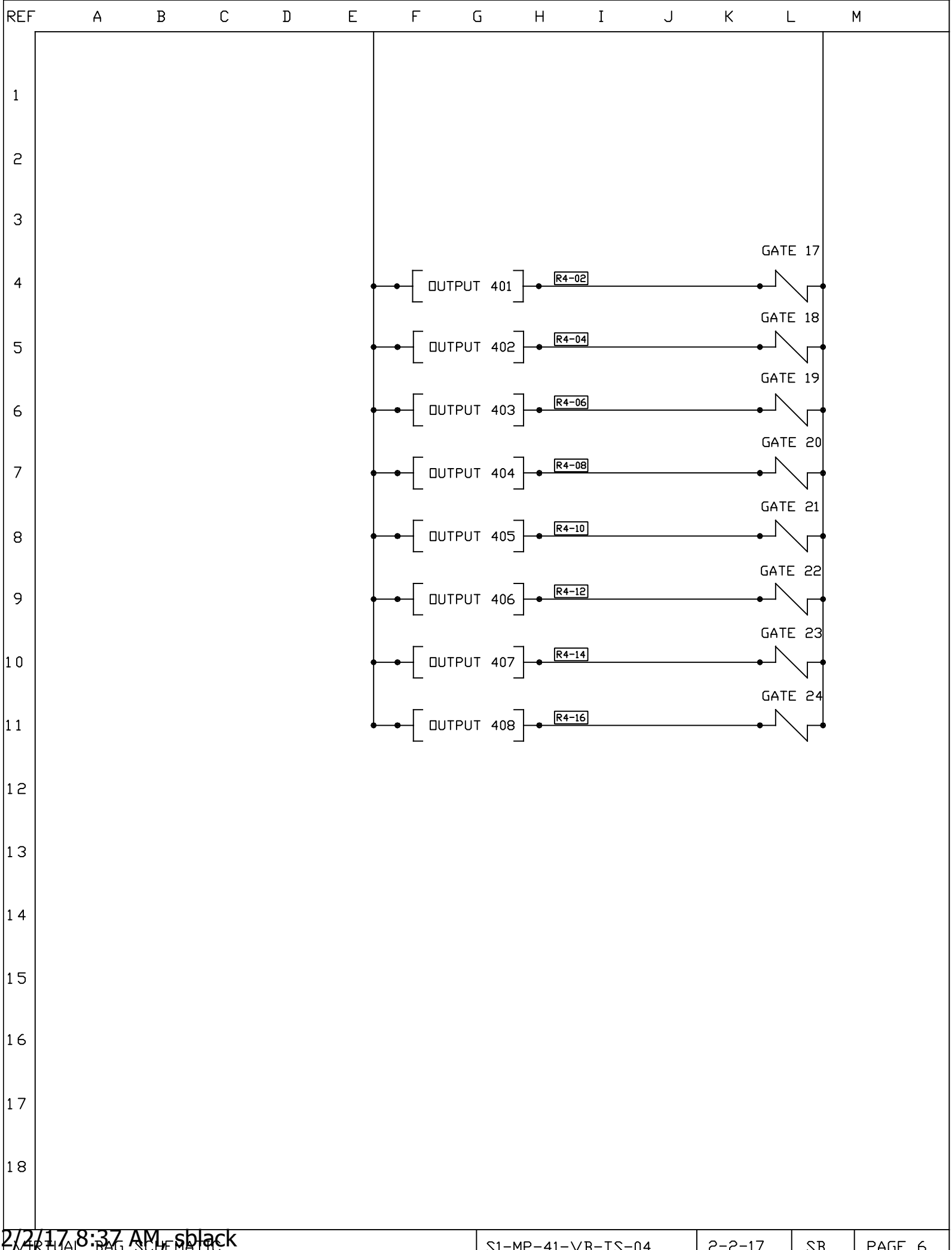
R3-16
GATE 16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17
18
OUTPUT 401
R4-02
GATE 17
OUTPUT 402
R4-04
GATE 18
OUTPUT 403
R4-06
GATE 19
OUTPUT 404
R4-08
GATE 20
OUTPUT 405
R4-10
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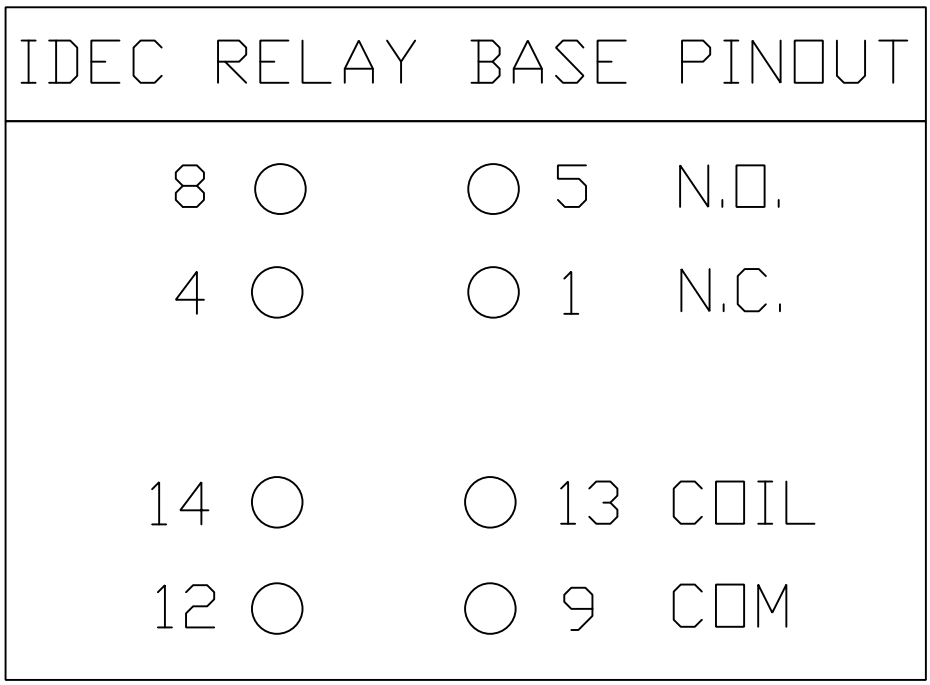
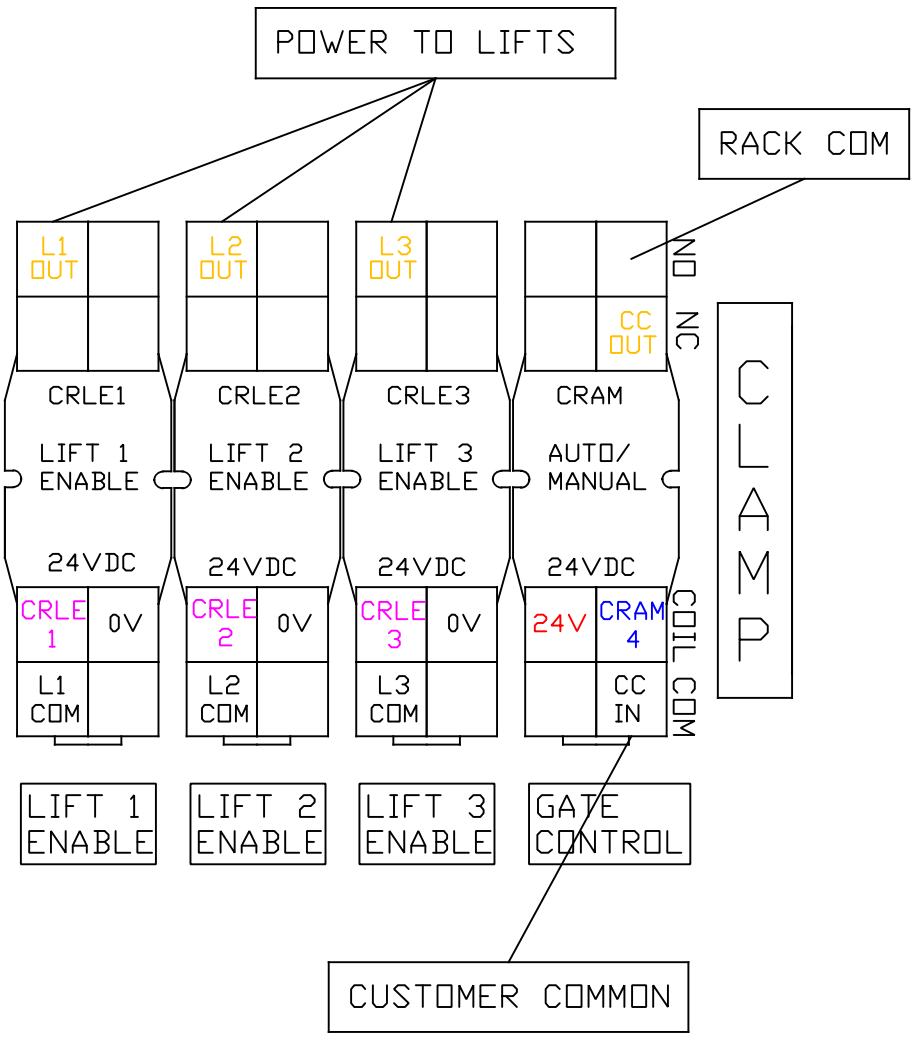
GATE 23
OUTPUT 408
R4-16
GATE 24

IDEC RELAY BASE PINOUT





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Date	Revision No	Revision notes
04/12/2014	1	First version.
8/22/2013	2	Reports Dashboard
2/17/2015	3	Added Reports Troubleshooting, updated template
3/6/2015	4	Added Step for changing Item names.
5/1/2015	5	Added new procedure for adding non-lifted items, Expanded Manage Items to include adjusting the weight tolerances.

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