



## **E-Ticketing Solution Overview**

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# Agenda

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- Current state / 1<sup>st</sup> draft specs
- Solution Overview
- PC Client App
- E-Ticketing Cloud Portal



# WISDOT Eticket draft specifications

- **109.1.4.3 Electronic Load Tickets**
- (1) Electronic load tickets may be provided as a substitute for printed tickets. Include the information as specified in **109.1.4.2** on each electronic ticket.
- (2) **Automatically generate** electronic tickets using a **system** that is **fully integrated** with the load-out scale system being used to weigh the material. Ensure data input cannot be altered and provide offline capabilities to prevent data loss.
- (3) Provide electronic tickets in **real-time** by allowing the **department access** to the tickets utilizing a **web-based** or app-based system compatible with iOS and Android.
- (4) Provide the capability to **record information and comments** on each ticket.
- (5) For each project ID and bid item, submit an **electronic daily summary** of the individual tickets daily as work is completed. In the daily summary, **include the unique information** for each individual load ticket. Provide the daily summary data in an **importable format**, such as .csv, .txt, or .xls.



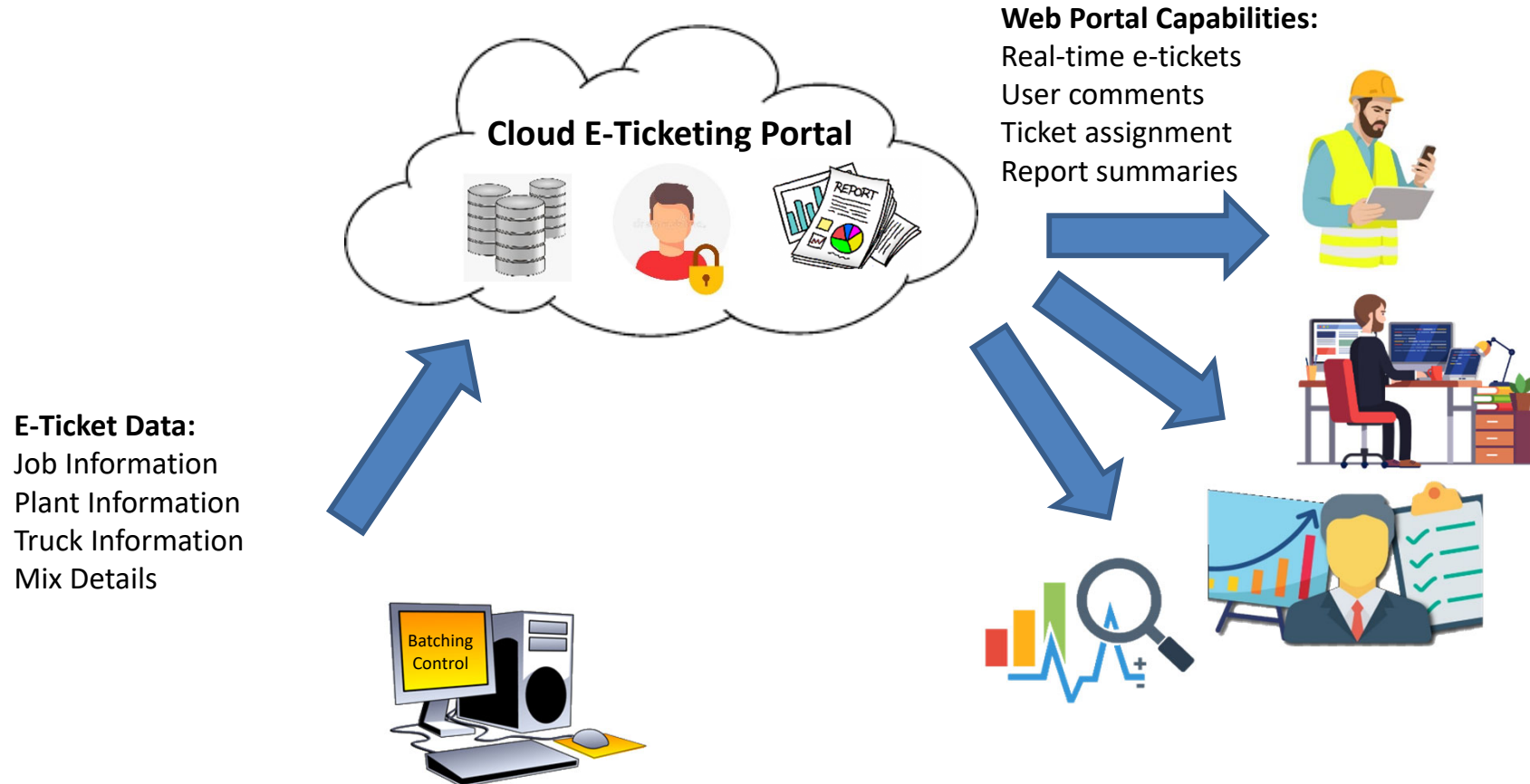
# Current State

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- Email pdf of ticket
- Save pdf to a mapped drive
  - E.g. Dropbox, Google Drive, Local network drive



# Solution Overview



# Solution Walkthrough – PC Client App

System Status: PLC Offline

Manual Mode

Select Report for Printing: 10/22/2021

Print Tickets

Date	Time	Ticket	Type	Job	Customer	Truck	Driver	Formula	Load	Units
10/22/2021	9:17	1295	Auto		0	Daneon	00124	00124	2.00	yards
10/22/2021	9:16	1294	Auto		0	Daneon	00124	00124	2.00	yards
10/22/2021	9:15	1293	Auto		0	Daneon	00124	00124	7.00	yards
10/22/2021	9:12	1292	Auto		0	Daneon	00124	00124	3.00	yards
10/22/2021	9:11	1291	Auto		0	Daneon	00124agg3	00124agg3	9.00	yards
10/22/2021	9:10	1290	Auto		0	Daneon	00124agg3	00124agg3	1.00	yards
10/22/2021	9:09	1289	Auto		0	Daneon	00124agg3	00124agg3	7.00	yards
10/22/2021	9:08	1288	Auto		0	Daneon	00124agg3	00124agg3	2.00	yards
10/22/2021	9:04	1287	Auto		0	Daneon	00124agg3	00124agg3	7.00	yards
10/22/2021	9:03	1286	Auto		0	Daneon	00124agg3	00124agg3	7.00	yards
10/22/2021	9:02	1285	Auto		0	Daneon	00124agg3	00124agg3	7.00	yards
10/21/2021	15:25	1283	Auto		0	Daneon	00124agg3	00124agg3	12.00	yards

Buttons: Display Selected Batch, Print Batch (Actuals only), Save Batch As E-Ticket, Print Batch (Complete), Print Batch (No Details)

Note: Multiple tickets can be selected and then click on one of the Print commands to print all selected tickets. Use Ctrl-Click to select individual tickets, or use Shift-Click to select a group of tickets. See the operator manual for further instructions.

Print Batch Summary for this date: Day: 22, Month: 10, Year: 2021

Delete all Batches before this date >

## Integration with Astec Batching Controls

- Batch data can be “published” as an e-ticket to be sent to the cloud e-ticketing system
- All info in section 109.1.4.2 of the Wisconsin DOT 109 Measurement and Payment document is provided in the e-ticket data
- Batch data is stored within the batching software in a tamper-proof way




# Solution Walkthrough – PC Client App

Primary Key	Plant ID	Ticket Number	Truck ID	Load Size
32	WOC 2019	1275	0	6

Batch Primary Key	Type ID	Type Sequence	Name	Target	Actual	Units	Percent Moisture
32	1	1	Sand	9490	9400	22	6.4
32	1	2	#1 Stone	9340	9360	22	4.8
32	1	3	#2 Stone	1800	1740	22	1
32	4	4	Fly Ash	0	0	22	0
32	4	5	Buzzi	2100	2095	22	0
32	6	6	Water	9	9	5	0
32	5	7	Calcium	10.8	11	20	0

 **ASTEC**  
Astec Inc © 2022

## Integration with Astec Batching Controls

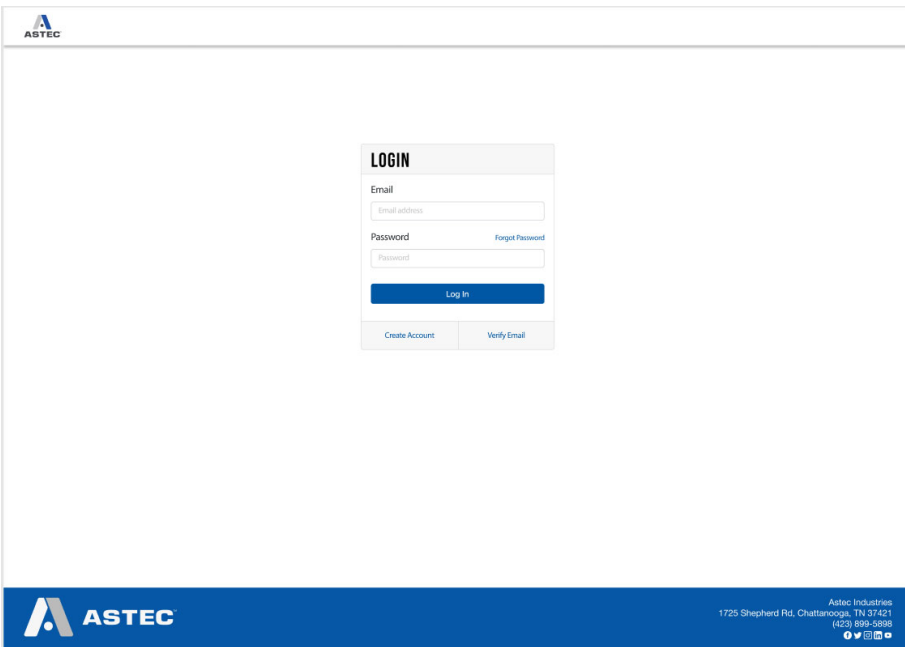
- Cloud Connector app runs along the batch control and accesses a local e-ticketing database
- Scans the e-ticketing database to detect new e-tickets and sends to the cloud e-ticketing system
- Bulk uploads e-tickets once internet connection has been restored after a loss of connection



# Solution Walkthrough – Cloud Portal

## Cloud E-Ticketing System – Login Page

- Accounts are created for each company and users will register within a company account
- Accessible from PC, phone, tablet, etc – anything with a web browser and internet connection



The screenshot displays the login interface for the Astec Cloud E-Ticketing System. The page features a central login form with the following elements:

- Header:** The Astec logo is positioned in the top left corner of the page.
- Form Title:** The form is titled "LOGIN" in bold, uppercase letters.
- Email Field:** A text input field labeled "Email" with a placeholder "Email address".
- Password Field:** A text input field labeled "Password" with a placeholder "Password". A link for "Forgot Password" is located to the right of the field.
- Log In Button:** A prominent blue button labeled "Log In" is centered below the password field.
- Footer:** At the bottom of the form, there are two links: "Create Account" and "Verify Email".

The footer of the page includes the Astec logo and the following contact information:

Astec Industries  
1725 Shepherd Rd, Chattanooga, TN 37421  
(423) 899-5888  
Social media icons for Facebook, Twitter, LinkedIn, and YouTube.





# Solution Walkthrough – Cloud Portal

**TICKETS**    REPORTS    ACCOUNT    COMPANY    HELP    [Logout](#)

## TICKETS

Start Date: 12/01/2021    End Date: 12/22/2021    Plant: Select    Ticket Status: Select

Search by Ticket No., Truck No., Delivery Type, Customer ID, Job ID, or Hauler ID

Ticket #	Scan Type	Truck #	Delivery Type	Plant	Customer	Job	Hauler	Time
738990	📄	225	Inbound	Columbia Plant	10471	CHAPIN PRESBY		12/13 12:10
738991	📄	CAMP223	Inbound	Columbia Plant	10471	CHAPIN PRESBY		12/13 12:22
738992	📄	LAB50	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 12:28
738993	📄	INLINE	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 12:42
738994	📄	CAMP224	Inbound	Columbia Plant	10471	CHAPIN PRESBY		12/13 12:45
738995	📄	318	Inbound	Columbia Plant	CRACKSON	21031		12/13 12:50
738996	📄	LC6	Inbound	Columbia Plant	11235	P2100280		12/13 12:51
738997	📄	CAMP222	Inbound	Columbia Plant	10471	CHAPIN PRESBY		12/13 12:53
738998	📄	LAB45	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 13:08
738999	📄	INLINE	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 13:14
739000	📄	118	Inbound	Columbia Plant	10471	CHAPIN PRESBY	CAMPENELLA	12/13 13:16
739001	📄	LAB16	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 13:20
739002	📄	LAB33	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 13:23
739003	📄	LAB27	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 13:25
739004	📄	LAB31	Inbound	Columbia Plant	15861	WOODLANDS CROSS		12/13 13:35

Previous 1 2 3 Next    1-15 of 50

**ASTEC**    Astec Industries  
1725 Shephard Rd., Chattanooga, TN 37421  
(423) 899-5800

## Cloud E-Ticketing System – Ticket List Page

- Lists all tickets the user has access to or has been assigned
- Filters available to isolate specific tickets or groups of tickets



# Solution Walkthrough – Cloud Portal

The screenshot displays the 'TICKETS' page in the Cloud E-Ticketing System. At the top, there are navigation tabs: TICKETS, REPORTS, ACCOUNT, COMPANY, and HELP, along with a 'Logout' button. Below the navigation, there are filters for Start Date (12/01/2021), End Date (12/22/2021), Plant (Chattanooga Plant), and Ticket Status (Open, Accepted). A search bar is provided for finding tickets by Ticket No., Truck No., Delivery Type, Customer ID, Job ID, or Hauler ID.

Ticket #	Scan Type	Truck #	Delivery Type	Plant	Customer	Job	Hauler	Time												
738990	📄	225	Inbound	Chattanooga Plant	10471	CHAPIN PRESBY		12/13 12:10												
<p>Barcode scan was missed.</p> <table><tr><td><b>Truck</b></td><td><b>Mixture</b></td><td><b>Job</b></td><td><b>Comments</b></td><td><b>Accept</b></td><td><b>Reject</b></td></tr><tr><td>Gross Weight: 24 tons Tare Weight: 3.97 tons Legal Limits: 40 tons Offload Time:</td><td>Name: Mat1 Design No.: Mat1 Code Net Wt.: 20.03 tons Daily Total: 270.08 tons Daily Loads: 14</td><td>Address: 123 Main Street, Chattanooga, TN 37405</td><td>N/A</td><td>Accept</td><td>Reject</td></tr></table>									<b>Truck</b>	<b>Mixture</b>	<b>Job</b>	<b>Comments</b>	<b>Accept</b>	<b>Reject</b>	Gross Weight: 24 tons Tare Weight: 3.97 tons Legal Limits: 40 tons Offload Time:	Name: Mat1 Design No.: Mat1 Code Net Wt.: 20.03 tons Daily Total: 270.08 tons Daily Loads: 14	Address: 123 Main Street, Chattanooga, TN 37405	N/A	Accept	Reject
<b>Truck</b>	<b>Mixture</b>	<b>Job</b>	<b>Comments</b>	<b>Accept</b>	<b>Reject</b>															
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738991	📄	CAMP223	Inbound	Chattanooga Plant	10471	CHAPIN PRESBY		12/13 12:22												
738992	📄	LAB50	Inbound	Chattanooga Plant	15861	WOODLANDS CROSS		12/13 12:28												
738993	📄	INLINE	Inbound	Chattanooga Plant	15861	WOODLANDS CROSS		12/13 12:42												
738994	📄	CAMP224	Inbound	Chattanooga Plant	10471	CHAPIN PRESBY		12/13 12:45												
738995	📄	318	Inbound	Chattanooga Plant	CRACKSON	21031		12/13 12:50												
738996	📄	LC6	Inbound	Chattanooga Plant	11235	P2100288		12/13 12:51												
738997	📄	CAMP222	Inbound	Chattanooga Plant	10471	CHAPIN PRESBY		12/13 12:53												
738998	📄	LAB45	Inbound	Chattanooga Plant	15861	WOODLANDS CROSS		12/13 13:08												
738999	📄	INLINE	Inbound	Chattanooga Plant	15861	WOODLANDS CROSS		12/13 13:14												

## Cloud E-Ticketing System – Ticket List Page

- Each ticket is expandable to show summary information
- Tickets can also be Accepted or Rejected by the inspector or final customer



# Solution Walkthrough – Cloud Portal

The screenshot shows the ASTEC Cloud E-Ticketing System interface. At the top, there is a navigation bar with links for TICKETS, REPORTS, ACCOUNT, COMPANY, and HELP, along with a Logout button. Below the navigation bar, the ticket details for Ticket #627 are displayed. The ticket is currently 'Open'. The page includes a summary and history tab, with the summary tab selected. The ticket details are organized into sections: Job, Trunk, and Comments. The Job section includes fields for Name, Address, Description, Date, and Customer Name. The Trunk section includes fields for Number and Driver. The Comments section has a text area for entering comments and Save/Cancel buttons. A central table displays the Batch ingredient table, showing columns for Name, Target, Percent Error, Actual, Units, and Percent Moisture. The footer of the page contains the ASTEC logo and contact information for Astec Industries.

**TICKET #627** Open

Truck No.: 225 | Columbia Plant | Customer 10471 | Job: Chapin Presby  
Hauler: -- | Time: 12/09/2021 15:44:18

Summary History

Plant: WOC 2019 Customer:

**Job**  
Name: 0  
Address:  
Description:  
Date: 3:06pm 10/21/21  
Customer Name:

**Trunk**  
Number: 0  
Driver: Dameon

**Mixture**  
Project#:   
Load Size: 6 cuyd  
Mix Time: 168 seconds  
Purchase Order:  
Formula: 00124agg3

Name	Target	Percent Error	Actual	Units	Percent Moisture
Sand	9490	-0.9	9400	lbs	6.4
#1 Stone	9340	-0.4	9300	lbs	4.8
#2 Stone	1800	-2.2	1760	lbs	1
Fly Ash	900	-1.7	885	lbs	0
Buzzi	2100	-0.7	2085	lbs	0
Calcium	11	0.0	11	foc	0
Water	9	0.0	9	gals	0

Comments

Save Cancel

**ASTEC**  
Astec Industries  
1725 Shepherd Rd., Chattanooga, TN 37421  
(423) 899-5838

## Cloud E-Ticketing System – Ticket Details Page

- All ticket data is presented here
- Batch ingredient table including:
  - Ingredient name
  - Target, Actual, Percent error
  - Units
  - Percent moisture
- Comments section to save comments to the ticket
- Ticket history tab to view comment and status history



# Solution Walkthrough – Cloud Portal

The screenshot displays the 'ASSIGNMENTS' page in the Astec Cloud Portal. The navigation bar includes 'TICKETS', 'REPORTS', 'ACCOUNT', 'COMPANY', and a 'Logout' button. The page title is 'ASSIGNMENTS' and the sub-tab is 'Users & Companies'. Below the search bar, there are radio buttons for 'Show All', 'Show Only Users' (selected), and 'Show Only Companies'. The main content is a table with the following data:

Name	Email	Company	Role	Assigned Tickets	Actions
<input type="checkbox"/> Carol Danvers	caroldanvers@astecindustries.com	Astec Industries	Admin, Weighmaster	--	...
<input type="checkbox"/> Henry Pym	henrypym@company5.com	Company 5	General User	4	...
<input type="checkbox"/> Robert Bruce	robert.bruce@company5.com	Company 5	General User	19	...
<input type="checkbox"/> Steve Rogers	steverogers@astecindustries.com	Astec Industries	Admin	--	...
<input type="checkbox"/> Clint Barton	clintbarton@astecindustries.com	Astec Industries	Admin	--	...
<input type="checkbox"/> Natasha Romanoff	natasharom@company2.com	Company 2	General User	29	...
<input type="checkbox"/> Sam Wilson	samwilson@company1.com	Company 1	General User	3	...
<input type="checkbox"/> Peter Parker	peter.parker.ny@company.com	Company	General User	46	...
<input type="checkbox"/> Jessica Jones	jjones@company4.com	Company 4	General User	17	...
<input type="checkbox"/> Stephen Strange	dstrange@astecindustries.com	Astec Industries	Admin	--	...

At the bottom of the table, there are pagination controls: 'Previous', '1', '2', 'Next', and '1-10 of 356'.

## Cloud E-Ticketing System – Ticket Assignment

- Tickets can be assigned to users within a company and shared with other companies/agencies
- Assignment management page allows easy visibility and control over which users and companies tickets have been shared with
- Users will only see tickets they have been assigned by an Admin user, all other tickets will be hidden
- Admin users will see all tickets available



# Solution Walkthrough – Cloud Portal

## Cloud E-Ticketing System – Ticket Assignment

- Rules can be created to assign tickets based on ticket data
  - Example 1: Assign all tickets from Plant #2 to John Doe and Jane Doe
  - Example 2: Assign all tickets from Plant Madison #3 AND Job I-94 South to Andy Smith, Chris Adams, WisDOT.

The screenshot shows the 'Assign Ticket Access' page in the ASTEC Cloud Portal. The page has a blue header with the ASTEC logo and navigation links for TICKETS, REPORTS, ACCOUNT, and COMPANY. A 'Logout' button is in the top right. Below the header, the page title is 'ASSIGN TICKET ACCESS'. The main content area includes an 'Assigned To' section with three user tags: 'Carol Danvers', 'Henry Pym', and 'Robert Bruce'. Below this is the 'Type of Access' section with two radio buttons: 'Add ticket assignment rules' (selected) and 'Assign specific tickets'. The 'Add all tickets with' section has a dropdown menu set to 'Customer' and a 'Select...' dropdown. A search box is present with the text 'Q Search'. Below the search box is a list of ticket IDs: 08562, 10471, 11235, 15861, CRJACKSON, and CWMATTHEWS. There are '+ Add Condition' and 'Cancel' buttons. The footer contains the ASTEC logo, the text 'Astec Industries 1725 Shepherd Rd, Chattanooga, TN 37421 423 899-5898', and social media icons for Facebook, Twitter, LinkedIn, and YouTube.



# Solution Walkthrough – Cloud Portal

The screenshot shows the 'REPORTS' section of the Cloud Portal. At the top, there are navigation links for 'TICKETS', 'REPORTS', 'ACCOUNT', and 'COMPANY', along with a 'Logout' button. Below the navigation is a blue header with the word 'REPORTS'. The main content area contains a form with the following fields:

- Generate Report** (button) and **Find Report** (text input)
- Date:** A date picker showing '2/8/2022'.
- Time Range:** Two time pickers for 'Start Time' and 'End Time'.
- Job Number:** A text input with the example 'e.g. A-12345'.
- Plant:** A text input with the example 'e.g. Plant 1'.

A blue 'Generate Report' button is located at the bottom left of the form. The footer of the page includes the ASTEC logo and contact information: 'Astec Industries, 1725 Shepherd Rd, Chattanooga, TN 37421, (423) 899-5898'.

## Cloud E-Ticketing System – Reporting

- Daily Summary Report including all tickets from each day work was performed
- Downloadable report can be imported into another system

### Report Summary

Job Number: 0  
Date: 10/21/2021  
Shift: 12:00am to 11:59pm  
Report Name: Shift Summary Columbia Plant 10/21/2021  
Report Comment:

### Tickets

#	Project #	Plant	Purchase Order	Batch		Truck				Timestamp	
				Mix Name	Mix Time	Water To Cement	ID	Load Size	Load Units		Driver Name
1281		WOC 2019		00124agg3	168	0.32	0	6	cuyd	Dameon	15:06 10/21/21
No Inspector Comment											
1277		WOC 2019		00124agg3	58	0.45	0	6	cuyd	Dameon	09:46 10/21/21
No Inspector Comment											
1276		WOC 2019		00124agg3	119	0.45	0	6	cuyd	Dameon	09:44 10/21/21
No Inspector Comment											



# Our Request

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- What are the use cases for various stakeholders
  - WisDOT, Plant Operators, Pavers
- Is there anything missing?





**Any Questions?**

Adam Komornicki

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