



## Asset Management Info Sharing Group Agenda

Tuesday, Nov. 5, 2015 11:00 am – 1:00 pm  
CCCSD Hob-2 Conference Room  
5019 Imhoff Place, Martinez, CA

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### Meeting Notes

#### **INTRODUCTIONS**

1. David Williams (BACWA); Dana Lawson, Matthew Mahoney, Neil Meyer, PJ Turnham (CCCSD); Kevin Kolte (City of Livermore); Ben Conner (City of Petaluma); Kim Lin (CCWD); Aaron Johnson (DSRSD); David Stoops (EBDA); Dillon Cowan (EBMUD); Jordan Damerel, Meg Herston (FSSD); Andrew Damron (Napa Sanitation District); Paul Bonitz (SFPUC); Saeed Shams (City of San Jose WPCP)

#### **PRESENTATION**

2. Implementing Mobile Devices for Warehouse and Tool Room (Paul Bonitz, SFPUC)
  - See attached slides
  - Participants discussed implementation of mobile technology and associated hurdles, need to test new software and hardware to make sure it's working before asking field staff to pilot it, how to handle re-order points and connection between inventory system and purchasing, if minimum thresholds were set for inventory tools, identifying critical assets and associated spare parts, barcoding, expensing tools against work orders as you would equipment, etc.

#### **ANNOUNCEMENT**

3. CWEA SF Bay Section Professional Development Committee (Dillon Cowan, EBMUD)
  - The PDC will be putting together a seminar next Spring and is looking for case studies of maintenance optimization, where an agency has implemented a Best Practice and documented the results.
  - Discussion followed regarding use of predictive maintenance, such as vibration, thermography, oil analysis, with examples from several agencies.

#### **DISCUSSION**

4. Participants continued discussions from the presentation regarding quick turnover of technology, buy-in from end-users or lack thereof, challenge of interface and integration between different software platforms, managing and inventorying software licenses and levels of licensing, etc.

#### **SUGGESTIONS FOR FUTURE AGENDA ITEMS**

5. David Stoops suggested setting lifecycles/ service life of assets. Attendees were requested to bring any tables or guidelines they use within their organizations to the next meeting in February.

#### **NEXT REGULAR MEETING**

6. Thursday, February 4, 2016 at EBMUD. Dillon Cowan will present either on force main

condition assessments that were conducted a few years ago or on Pumping Stations.

7. The group discussed setting a regular meeting schedule. All agreed to quarterly meetings in Feb, May, Aug, and Nov. Dana Lawson will check the schedule of the other BACWA meetings and with David Stoops to avoid any conflicts and then set a regular date within those months. Meetings will continue be held 11am-1pm at a host agency. CCCSD will be the default location unless another agency can host a specific meeting.

**ADJOURNMENT 1:05PM**


Date: 11-5-2015

# BACWA Asset Management Group List

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*16.11.2015*

Date: 11-5-2015

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# Using Mobile Devices for Maximo Inventory and Tool Management at the San Francisco Public Utilities Commission Wastewater Enterprise



## Topics

- Background of the Wastewater Enterprise (WWE) and the San Francisco Public Utilities Commission
- Background of the WWE Asset Management Program and how the mobile devices enhance the Program
- Show the Warehouse and Tool Room functions and the challenges to improve the process
- Show videos of screen shots of the mobile devices and staff performing transactions with these devices

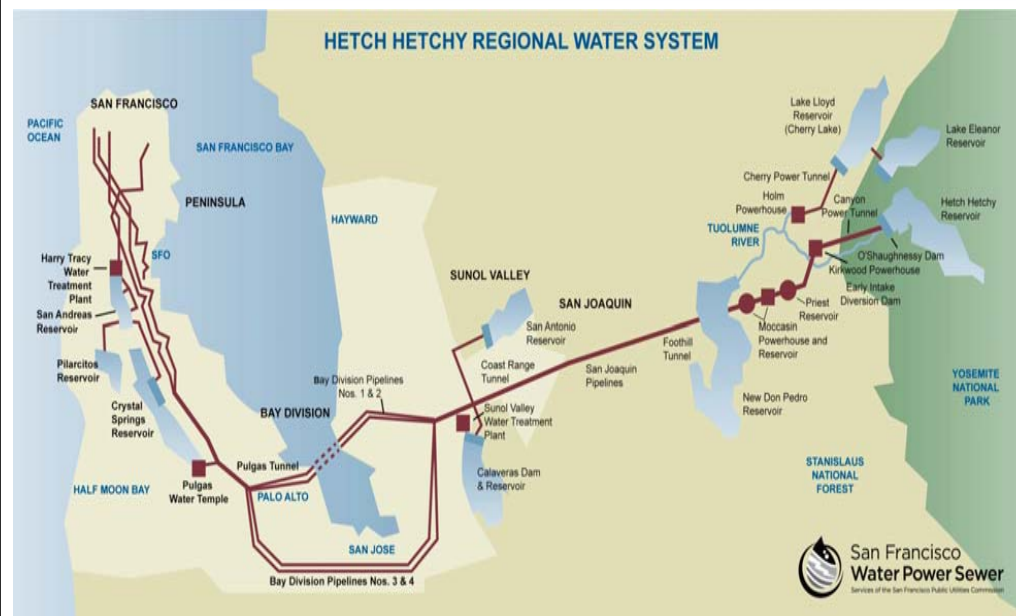


## WASTEWATER ENTERPRISE

- Over 800,000 customers
- Over 1000 miles of sewer pipelines (combined system)
- 4 treatment plants
- 21 pump stations
- Over 300,000 assets



## SFPUC Geography





# Asset Management Goals



## Asset Management Goals

Quickly identify the spare parts needed for Critical Assets:

Establish accurate levels of inventory to ensure supporting spare parts are available at all times for critical assets

By having accurate on hand quantities and parts available on site for the Maintenance Crews, we hope to:

- Decrease excessive or unplanned downtime by 5-7%
- Increase crew wrench time by 12-15%

# Asset Management Priorities



## Asset Management Priorities

Minimize Asset Lifecycle Costs by reducing unplanned critical asset down time with a Solid Warehouse Inventory Spare Parts Program

Key components to minimizing lifecycle costs utilizing Mobile:

- Optimize Warehouse and Inventory program
- Easy access to available parts
- Reveal accurate counts to support PM and CM work in the field
- Increased staff confidence of accurate inventory levels
- Optimize Planning and Scheduling of CM and Critical Work
- Easily identify Spare Parts during an Emergency Response situation

# MOBILE FUNCTIONALITY



# Warehouse Functions

- Inventory Search
- Issues and Returns
- Transfer Material
- Cycle Count
- Discrepancy Report



# Tool Room Functions

- Inventory Search
- Issues and Returns
- Transfer Material
- Cycle Count
- Discrepancy Report



# **Basic Challenges before Launching Mobile Solutions**

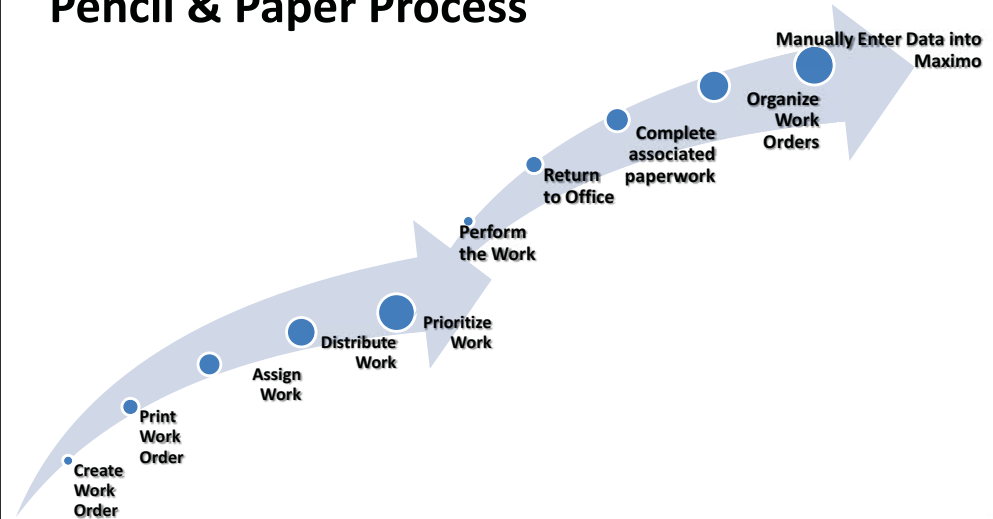
- Updating Technology
- Process Improvements
- End User Adoption
- Departmental Collaboration

## Developing a Mobile Framework

- Reliable WIFI Access
- Network Security: working with IT
- Solid requirements gathering
- Mapping out a clear Business Process
- Have an SOP that supports your Business Process

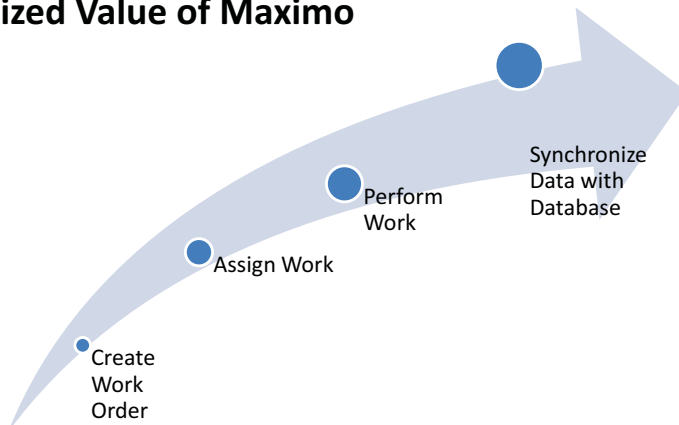
## Old School

### Pencil & Paper Process



## Benefits of Mobility

- Increased Productivity
- Business Process Improvement
- Increased Data Accuracy
- Streamlined Operations
- Maximized Value of Maximo



## ESTIMATED MONTHLY COST SAVINGS

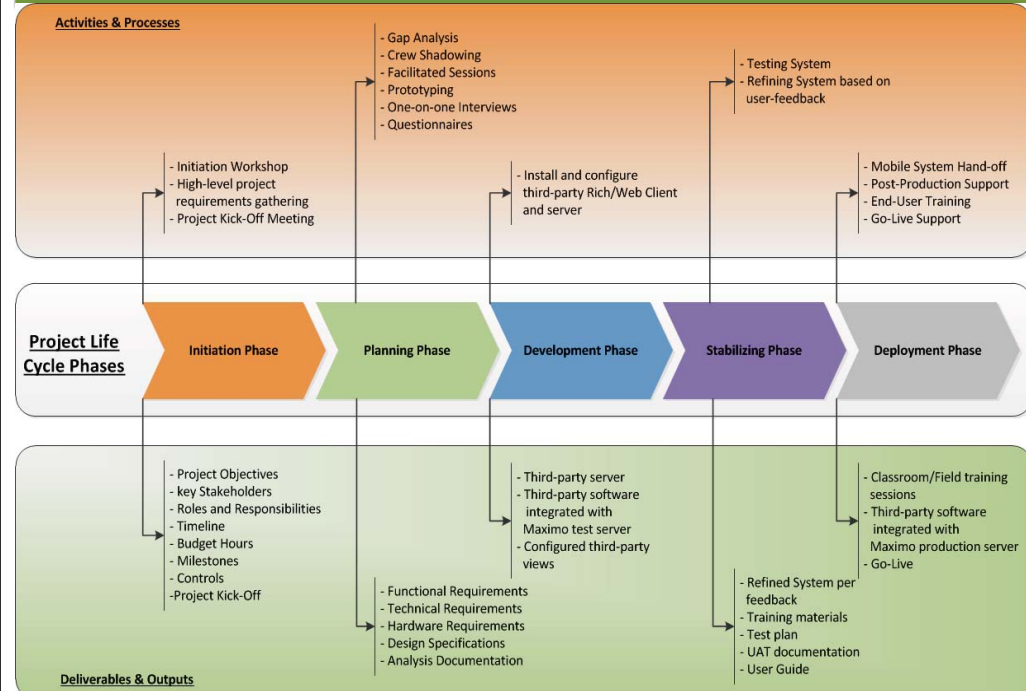
SFPUC-WWE					
INVENTORY TRANSACTION TOTALS					
COST COMPARISON: MANUAL VS. MOBILE					
Labor cost is calculated at \$25 per hour					
MONTHLY MANUAL COST FOR COMMON TRANSACTIONS					
Transaction Type	Est. # Daily Transactions	Time in Min	Total Time	Cost per Transaction	X20 days
Warehouse Issuing	40	7	280.00	\$2.87	\$803.60
Tool Room Issues and Returns	25	10	250.00	\$4.10	\$1,025.00
Receiving Items	10	10	100.00	\$4.10	\$410.00
Conducting Cycle Counts	N/A	60	60.00	\$36.90	\$2,214.00
Correcting Discrepancies	N/A	10	10.00	\$6.15	\$61.50
			Total COST		\$4,514.10
MONTHLY MOBILE COST FOR COMMON TRANSACTIONS					
Transaction Type	Est. # Daily Transactions	Time	Total Time	Cost per Transaction	X20 days
Warehouse Issuing	40	5	200.00	\$2.87	\$574.00
Tool Room Issues and Returns	25	5	125.00	\$4.10	\$512.50
Receiving Items	10	5	50.00	\$4.10	\$205.00
Conducting Cycle Counts	N/A	30	30.00	\$36.90	\$1,107.00
Correcting Discrepancies	N/A	5	5.00	\$6.15	\$30.75
			Total COST		\$2,429.25



## SFPUC to Utilize Enterprise Approach to Mobility

- Easy to install, configure and administrate
- Uniform User Interface
- Integrate with multiple databases
- Flexible Licensing – named vs. concurrent

## 5 Phases of the Mobile Project Life Cycle



## End User Feedback

- Ease of use: wireless scanning makes it easy to input information
- Reduces Time: mobile vs. walking back and forth to desk top
- Diminishes errors: scanning allows for more accuracy
- Monthly Cost Savings



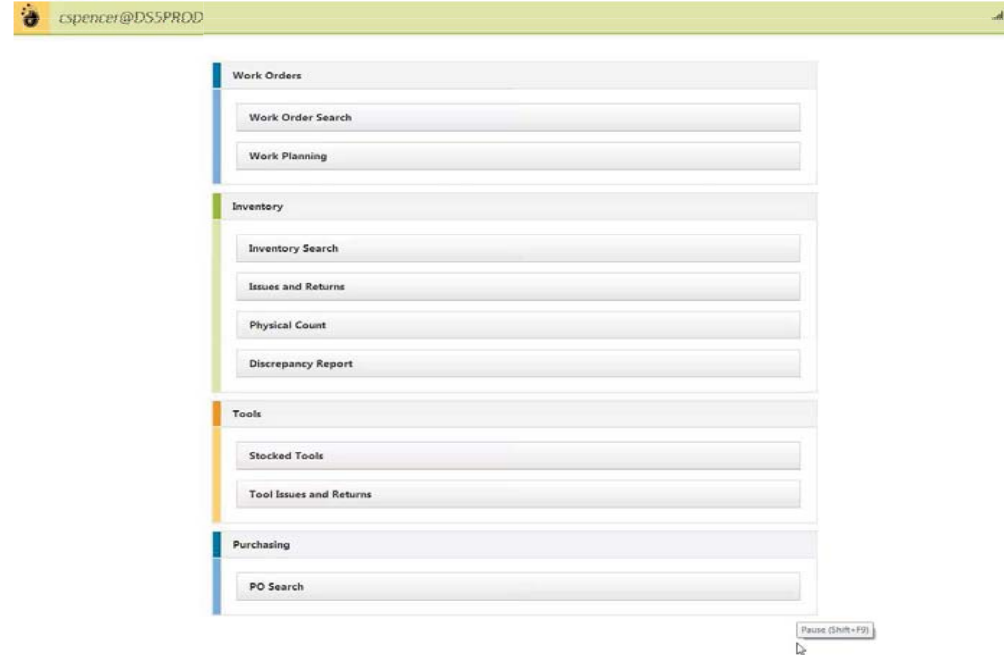
## NEW TOOL ROOM PROGRAM OVERVIEW



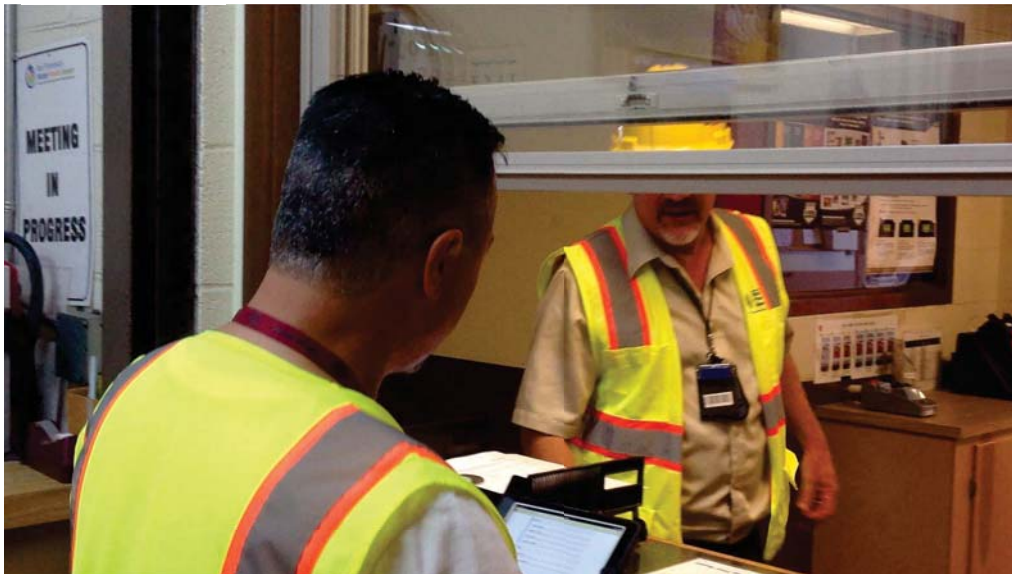
## BENEFITS OF TRACKING TOOL ROOM ITEMS

- Knowing where the tools are at all times and knowing when they are due back.
- Better planning of CMs and PMs requiring specific tools (Example: calibration and safety equipment)
- Ensuring critical tools are available to schedule critical work
- Beneficial to planning and scheduling.
- Tool Usage Reporting supports procurement of additional tools needed

## Recorded Demo- Issuing Tools



## Tool Room – Issuing Video



## Tool Room Best Practices

- Warranty Tracking
  - Identifying warrantied Tools for free replacement
- Damaged Tool Replacement
  - Tracking and Replacement Policy
  - Tracking cost of damaged tools
  - Creating a virtual Warehouse for damaged items
- Safety
  - Replacing damaged tools critical to safety of employees

## Recorded Demo - Returning Tools

cspencer@DSSPRG

Work Orders

Work Order Search

Work Planning

Inventory

Inventory Search

Issues and Returns

Physical Count

Discrepancy Report

Tools

Stocked Tools

Tool Issues and Returns

Purchasing

PO Search

## Returning Tool Video



## Overdue Tool Report Benefits

- Set default return dates in DataSplice
- SPUC requires 2 weeks to return tools
- Tools on report reveal tools that are overdue
- You can set return date to any date desired or select to default date

## OVERDUE TOOL REPORT

Reporting						
Page 1 of 2						
All Overdue Tools						
Item Number	Description	Issue Type	Issue To	Memo	Transaction Date	Exp Return Date
WWT-CAWINCH34-01	COME ALONG WINCH 3/4 TONS COFFING	ISSUE	TBANKS		5/7/14	
WWT-CDELC-02	EXTENSION CORD 25 FT	ISSUE	PMENIL		8/20/14	9/3/14
WWT-DRHAM-01	MILWAUKIE BATTERY POWERED HAMMER DRILL DRIVER	ISSUE	PHENNESSY		8/21/13	
WWT-DRILL 1/2"	MILWAUKIE DRILL 1/2"	ISSUE	JPOSEY		5/12/14	
WWT-EOL-01	Surge 7 Outlet 6 Ft Cord Led	ISSUE	DLINDSEY		9/2/14	9/16/14
WWT-FAN-01	FAN, 36 IN ROLLING (DAYTON)	ISSUE	MBERDE		8/16/13	
WWT-FURNITURE DOLLY	FURNITURE DOLLY	ISSUE	SJONES		9/8/14	9/22/14
WWT-GEN-01	HONDA EU1000i GENERATOR 1KW	ISSUE	TBANKS		2/6/14	
WWT-GRVS-02	DEWALT 4.5" ANGLE GRINDER	ISSUE	JHANSEN		6/12/14	6/26/14
WWT-HAMRO-02	HILTI TE7-A CORDLESS ROTARY HAMMER	ISSUE	RLEE		9/10/13	
WWT-HAMRO-03	SDS ROTARY HAMMER (BOSCH) 120v	ISSUE	RHALL		12/4/13	
WWT-HARN-01	Harness Sm Mating Buckle D-Ring	ISSUE	HTORRES		7/29/14	8/12/14
WWT-HMDR-TE2S-01	HILTI HAMMER DRILL TE 2-S SDS	ISSUE	JMARTIN		4/18/14	
WWT-HMDR-TE30-02	HILTI HAMMER DRILL TE-30	ISSUE	POSHEA		3/19/14	
WWT-LAD10	10" FT LADDER	ISSUE	DLINDSEY		9/3/14	9/17/14
WWT-MAGBIT-158	ROTABROACH CUTTER 1 5/8	ISSUE	JMARTIN		9/9/14	9/23/14
WWT-PUMPH-02	PUMP, HAND, Hydraulic press, 10000 PSI.	ISSUE	JWONG		9/3/14	9/17/14
WWT-PYLK-5	Locking Plier Straight 5 In	ISSUE	YHABA		6/13/14	6/27/14
WWT-RAT12-10	Ratchet Reversible 1/2dr 10 In Chrome	ISSUE	JLEHANE		6/9/14	6/23/14
WWT-SCPC	Carbon Scraper Set 10 In L 4 Pc	ISSUE	RIRIAS		6/10/14	6/24/14
WWT-SLGN12-01	SLING,NYLON (Round); 12FT, 13,200 lbs	ISSUE	CDEBONO		8/13/14	8/27/14



# MOBILE FUNCTIONALITY (Warehouse)



## Mobile Benefits (Warehouse)

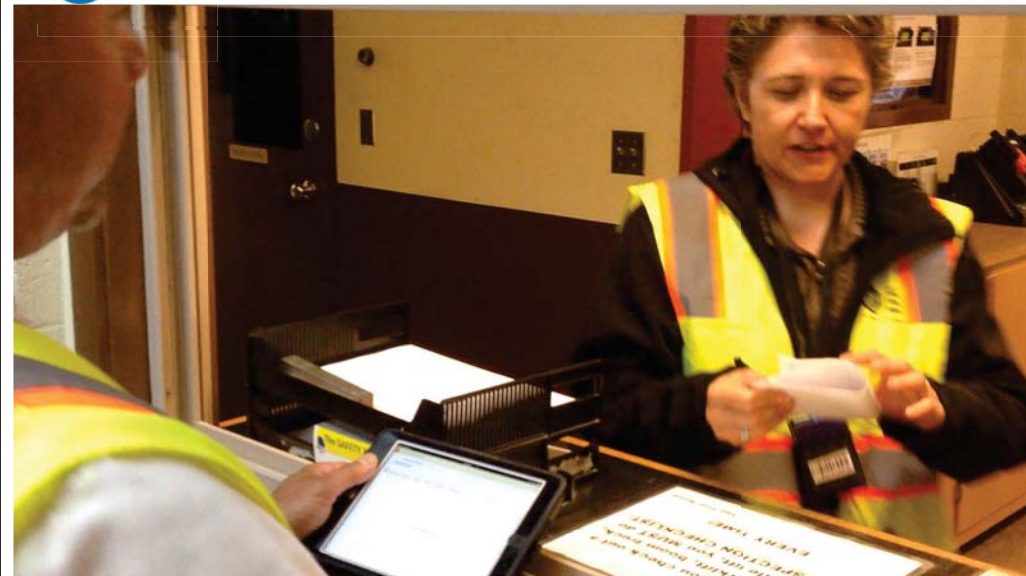
- Tracking cost of consumables is more accurate
- Saves Time (Manual vs. Mobile)
- Easier to find parts: using mobile to search by description which reveals Bin numbers
- Expedites Emergency Management Situations

## Live demo: Issuing from Warehouse

cspencer@DSSPRCS

<b>Work Orders</b>
Work Order Search
Work Planning
<b>Inventory</b>
Inventory Search
Issues and Returns
Physical Count
Discrepancy Report
<b>Tools</b>
Stocked Tools
Tool Issues and Returns
<b>Purchasing</b>

## Issuing Item from Warehouse



## Issuing Item from Warehouse



## Streamline process for receiving Purchase Orders via Mobile Device

- Ability to move around – use mobile to receive items outside of Warehouse
- Inspection can be completed at the receiving point – one stop shop – can do everything all in one transaction with mobile device
- Ability to easily scan PO#s versus entering manually

## Recorded Demo- Receiving Items



## Receiving Item



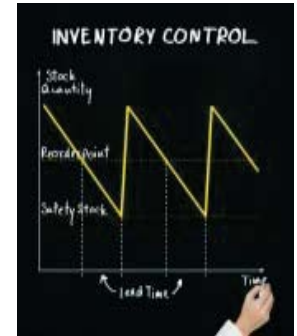




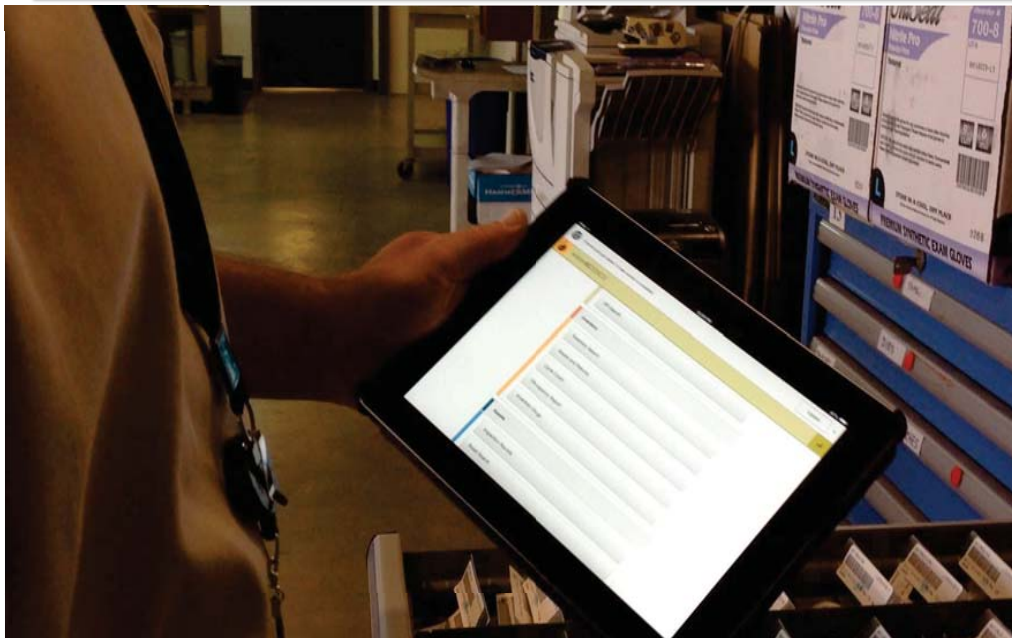
# CYCLE COUNTS

## Why CYCLE COUNTS?

- Ensure accuracy of inventory
- Track usage of inventory to ensure availability
- Track usage of critical items needed for critical work
- Validate on-hand availability of critical spare parts
- Cycle count ensures accurate on-hand quantities reducing a **NEVER OUT** situation



## Conducting a Cycle Count



## Causes of Inventory Discrepancies (Manual Process)

- Inventory Practices not enforced (parts leave Warehouse without real time transaction)
- Tools and Test Equipment not part of inventory process
- Items not labeled or mislabeled
- Storage area not designated in Maximo
- Mistakes issuing out and or receiving items

## Fixing CYCLE COUNT DISCREPANCIES



## Discrepancy Report

## Fixing Cycle Count Discrepancies

DataSplice 5.0 Client

nfoote@DS5TEST

Physical Count

Discrepancy Report

Discrepancy Report

Search

Bin

Reconciled

Storeroom

SEP-STRM

Item	New Count	Bin	Description
MSWIT-0041	4		SWITCH,HIGH LIMIT THERM
AADHE-0010		A01BEH	EPOXY, KIT (2 BOTTLE) 50 M
GRNIG-0384		A03NCS	1/2" BEARING BALL

► **USE:** To review count discrepancies and re-count unreconciled items.

From the Home Screen tap **Discrepancy Report**. Observe that the display changes to the requested view (see below).

The default filter for the **Discrepancy Report** view will appear.

Default Filter – Users will be presented a predefined filter to search inventory.

Use the available search fields to filter the data: **Bin**, **Reconciled?** and/or **Storeroom**.

Press the **Enter** key or tap the **Run Query** icon to retrieve the matching record(s). By default, the records will be sorted by **Bin**.

**NOTE:** Records highlighted yellow indicate a balance discrepancy and the item is unreconciled.

Use the displayed records as a guide and count the items on the list by scanning the matching barcode for the selected item.

Enter a **New Count** and locate the next item on the list.

To change the search criteria, tap the **Toggle Search** icon and modify the search.

## Discrepancy Correction Screen

Discrepancy Report

1/154

Item	New Count	Bin	Description
MSWIT-0041	4		SWITCH,HIGH LIMIT THERM
AADHE-0010		A01BEH	EPOXY, KIT (2 BOTTLE) 50 M
GRNIG-0384		A03NCS	1/2" BEARING BALL

## Recorded Demo- Fixing Discrepancies

csponcer@DS5PROD

Work Orders

Work Order Search

Work Planning

Inventory

Inventory Search

Issues and Returns

Physical Count

Discrepancy Report

Tools

Stocked Tools

Tool Issues and Returns

Purchasing

PO Search

## CYCLE COUNT REPORT

- Easy to identify critical spares
- Ensuring critical spare QOH is accurate
- Help serve as a report to review when items are running low – provided the report is accurate and there are no discrepancies
- Allows you to search by BIN# versus walking out to Bin to see what you have
- Cycle count ensures accurate on-hand quantities – reducing a NEVER OUT situation of critical parts

## CYCLE COUNT REPORT

Inventory Cycle Count by Selected BINS							
Site: WW		DEFAULT BINS THAT BEGIN WITH: A0					
Storeroom: 'SEP-STRM'							
Item	description	issueunit	Last Count Date	Current Balance	Current Count	BIN NUMBER	
'ATAPE-0010'	ATAPE-0910 - TAPE, TEFLON, PIPE THREAD, 1/2" X 520"	RL	7/14/14	128		'A01AAA'	A01AAA
'ATAPE-0006'	ATAPE-0006 - TAPE, MASKING, 3/4" X 60 YDS, 24 ROLLS PER CASE, "3M TARTAN" PN: 200, "GRAINGER" 1F155	RL	7/14/14	12		'A01ABA'	A01ABA
'ATAPE-0005'	ATAPE-0305 - TAPE, ELECTRICAL; "3M" PN: 06132, SUPER 33, VINYL PLASTIC, 3/4" X 66 FT/ROLL	RL	7/14/14	18		'A01ABB'	A01ABB
'ATAPE-0205'	ATAPE-0205 - TAPE, DUCT; "3M" PN: 6969-2INX60YD, 2"X60YDS/ROLL,24 ROLLS PER CASE	RL	7/15/14	36		'A01ACA'	A01ACA
'ASFTP-0960'	ASFTP-0960 - RESPIRATOR, SMALL; "3M" PN: 6100, 1/2 FACE, SERIES 6000	EA	7/14/14	5		'A01ACB'	A01ACB
'ASFTP-0963'	ASFTP-0963 - RESPIRATOR, MEDIUM; "3M" PN: 6200, 1/2 FACE, SERIES 6000	EA	7/14/14	15		'A01ADB'	A01ADB
'ATAPE-0005'	ATAPE-0005 - TAPE, MASKING, 2" X 60 YDS PER ROLL, 24 ROLLS / CS	RL	7/14/14	4		'A01AEA'	A01AEA
'ASFTP-0967'	ASFTP-0967 - RESPIRATOR, LARGE; "3M" PN: 6300, 1/2 FACE, SERIES 6000	EA	7/15/14	29		'A01AEB'	A01AEB
'ASEAM-5023'	ASEAM-5023 - FORM-A-GASKET; "PERMATEX" PN: 80011, FLEXABLE	EA	7/14/14	9		'A01AFA'	A01AFA
'ASEAM-5013'	ASEAM-5013 - FORM-A-GASKET, FAST DRYING, HARD SETTING; "PERMATEX" PN: 80003, 1C, 11OZ.	EA	7/14/14	4		'A01AFB'	A01AFB
'ASEAM-4110'	ASEAM-4110 - ADHESIVE/SEALANT, SILICONE; "PERMATEX" PN: 80050; 3 OZ TUBE	EA	7/14/14	16		'A01AFC'	A01AFC
'ASEAM-4010'	ASEAM-4010 - Sealant, Caulk, clear, 10.1 Oz., Window/Door 100% Silicone Rubber, in/out door, watertight, flexible	EA	7/15/14	1		'A01AFD'	A01AFD
'ASFTP-0990'	ASFTP-0990 - RESPIRATOR, SMALL; "WILLSON" PN: 6100S, SERIES 6000	EA	7/14/14	2		'A01AGA'	A01AGA
'ASFTP-0983'	ASFTP-0983 - FILTER, HIGH EFFICIENCY; "3M" PN: 2091 (2 EA/BAG)	BG	7/14/14	28		'A01AGC'	A01AGC
'ASFTP-0165'	ASFTP-0165 - MASK, RESPIRATOR; "3M" PN: 8212, 10 MASKS/PACK, SOLD BY PACK ONLY	EA	7/14/14	0		'A01AHA'	A01AHA
'ASFTP-0150'	ASFTP-0150 - MASK, RESPIRATOR; "3M" PN: 8511, DISPOSABLE, 10 PER BOX/ 80 PER CASE, N 95	EA	7/14/14	282		'A01AHB'	A01AHB
'ASFTP-0905'	ASFTP-0905 - EARPLUG, MOLDABLE; "HOWARD LEIGHT" PN: MAX-1, W/O CORD, 200 PR / BX, SMOOTH, SOIL RESISTANT	BX	7/14/14	13		'A01AIA'	A01AIA
'ALOCK-0080'	ALOCK-0080 - PADLOCK, "MASTER" PN: 7LJKA-P518, KEYED ALIKE, KEY#-P518, (GRAINGER # 3T984) NON-CONTRACT	EA	7/14/14	0		'A01BAA'	A01BAA

## Hardware Decisions



## Mobile Challenges after Implementation

- End User feedback to further develop improvements
- Strong reliable Wi-Fi capabilities
- Willingness to change current Business Processes
- Adopting Best Practices to take Mobile to the next level
- Having a mobile Administrator (Tech Support)
- Device Management Application (Maas 360)



QUESTIONS??



## CONTACT INFORMATION

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