



# **Environment & Energy Meeting**

**(Combined Environmental Quality Control  
Committee, Recycling Board, and Garrison  
Energy Steering Committee Meetings)**

**17 July 2014**



# Agenda



- 1. Opening Remarks – Barbara Williams**
- 2. Sustainability Management System and Pollution Prevention Update – Tamera Warren**
- 3. Solid Waste Program Update – Stephanie Gillian**
- 4. Installation Restoration Program Update – Lahiri Estaba**
- 5. Qualified Recycling Program Update – Ernest Dicks**
- 6. Open Discussion - Attendees**
- 7. Closing Remarks - COL Graese**



# **Sustainability Management System (SMS) & Pollution Prevention (P2) Update**

Tamera M. Warren  
SMS/P2/GP Coordinator



# SMS Review



- **Policy Acronym: “PALMS”**
  - *P*romote continual improvement
  - *A*lways be in compliance
  - *L*ook to prevent pollution
  - *M*anage sustainable programs
  - *S*ustain natural and cultural resources
- Objectives (goals) and targets (action items) have been identified to address environmental or sustainability issues





# Pollution Prevention (P2) Review



- Per Pollution Prevention Act of 1990:
  - Based on “source reduction”
  - Reduction/elimination of waste by modifying processes or activities
  - Efficient use of raw materials, energy, water, and other resources
  - Protection of natural resources by conservation or other efforts



# Army Net Zero Initiatives



- Objective: integrate approaches to management of energy, water, and waste to capture and commercialize the resource value and/or enhance the ecological productivity of land, water, and air
  - Net Zero ENERGY: produce as much energy as it used (over a course of a year)
  - Net Zero WATER: limits consumption of freshwater resources and returns water back into the same watershed (minimizes the depletion of groundwater and surface water resources in the region in quantity or quality)
  - Net Zero WASTE: reduce, reuse, and recover waste streams, converting them to resources values with zero solid waste to landfill



# Army Net Zero Initiatives





# Update on SMS & P2/Net Zero Initiatives



- **Multiple interconnecting issues:**

Areas of Concern	Status
<b>Solid Waste &amp; Recycling</b>	1) Food Waste Diversion Initiative 2) Open Dumping 3) Recycling Opportunities
<b>NEPA</b>	Working to improve the environmental review process for projects
<b>Hazardous Substances</b>	1) Management of Transformers 2) Management of Wastes & Materials
<b>Green Procurement</b>	1) Drafting Plans & Policies 2) Use of Biobased Products
<b>Energy/Water</b>	1) Energy Savings Performance Contracts 2) Building Energy Managers (BEMs)



# FJ/USC Sustainability Courses- Update



- Sustainability Management and Leadership course educate students about FJ/military/global sustainability initiatives and leadership strategies
  - Online curriculum
  - Internship program- DPW Energy Conservation Program
- NOTE: Promotion points and education/learning credits available for military personnel
- Online course begins August 2014
  - ENVR 231



Field trip to Honeywell Bldg



# **For Questions or Additional Information:**

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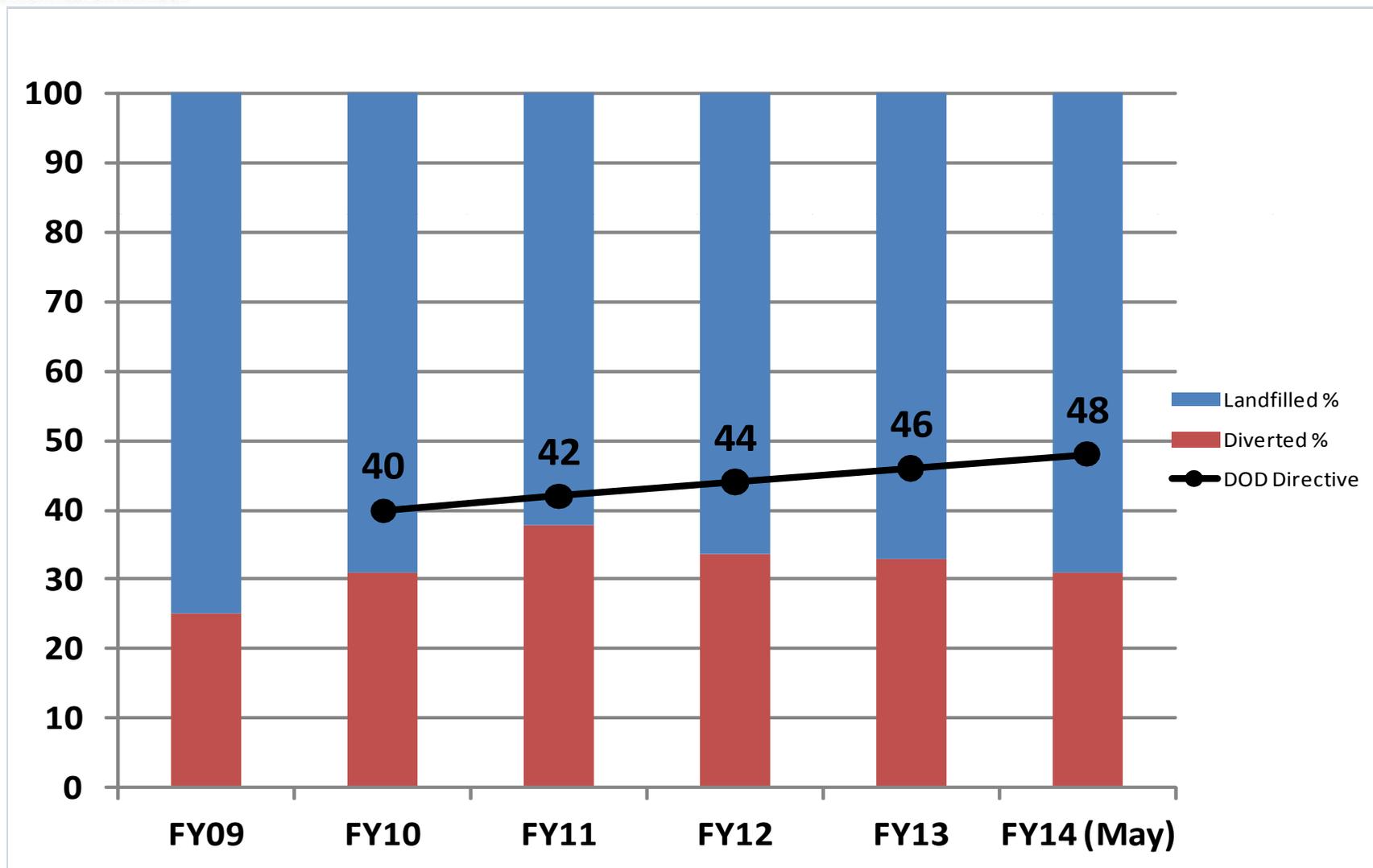
# Solid Waste Program

Stephanie Gillian  
Solid Waste Program Manager





# Municipal Solid Waste (MSW) % Diversion





# Food Waste



- In May, Environmental Division, Logistics Readiness Center, and Johnson Food Service surveyed the operations of five dining facilities:
  - Quad DFAC (Bldg 5454)
  - Dual DFAC (Bldg 11900)
  - Dual DFAC (Bldg 11500)
  - Single DFAC (Bldg 1401)
  - DSS DFAC (Bldg 9572)
- Past and current audits of DFACs indicate that ~45% of Fort Jackson's MSW is food waste
- Fort Lee and US Army Public Health Command (PHC) were consulted and offered to assist in food waste reduction efforts at Fort Jackson





# Food Waste Reduction



- Fort Lee purchased food dehydrators and has seen a reduction in food waste of ~85-90% resulting in decreased disposal costs
- Vendor site visit 23 July – dehydrator demonstration at Bldg 11900
- Proposal to install food dehydrator at two DFACs





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# MRE Recycling



- PHC is looking for an installation to conduct a pilot program. They will be onsite 22-25 Jul to observe MRE usage
- Fort Jackson is second largest user of MREs in Army – used >4 million in FY13
- MRE plastic is recyclable - buyer willing to pay \$0.10/lb, which equates to ~\$200,000/yr
- Need a unit to volunteer for pilot program





# Tire Disposal/Recycling



- It is illegal to throw tires into dumpsters, roll-off bins, or other trash receptacles. This includes car, truck, golf cart, bicycle, and lawnmower tires.
- It is illegal to dump tires, and any other trash/debris, in an unpermitted area.
- Tires can be recycled and be used for many purposes, such as running tracks, playgrounds, and the obstacle course.





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# Tire Disposal/Recycling



- Government tires must be turned in to DLA-DSJ with appropriate paperwork. Call 751-7689 for assistance and to schedule a turn-in appointment.
- Personally owned vehicle tires must be disposed off-post at a permitted solid waste management facility, tire retailer, or other automotive maintenance shop.
- Prior to disposal, tires must be protected from the weather. Tires with rainwater accumulation are breeding grounds for disease carrying rodents and mosquitoes





# Solid Waste Program

Stephanie Gillian

Solid Waste Program Manager

751-9507



# **Installation Restoration Program (IRP)**

## **Gate 2 Shoppette**

Bldg 4120

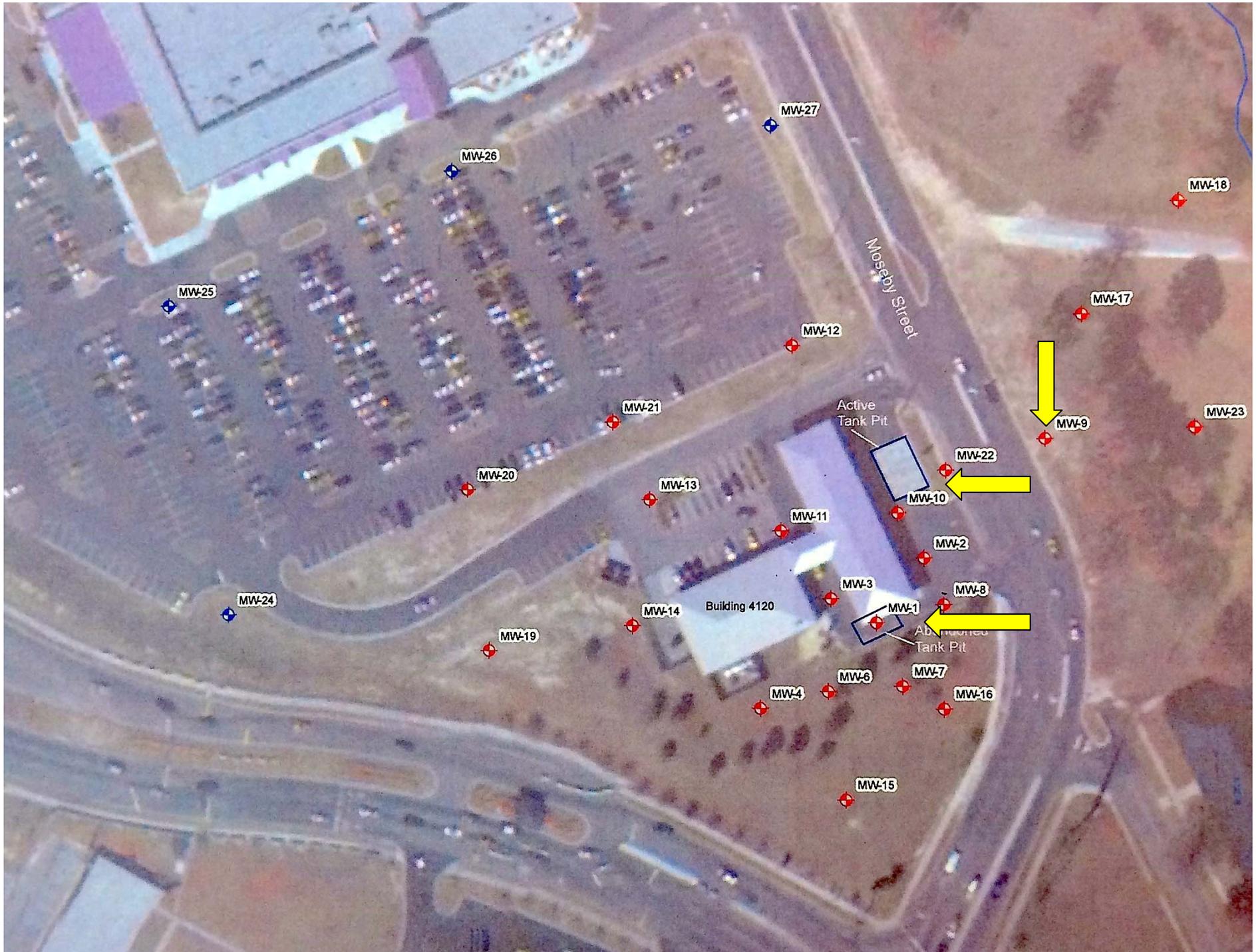
Lahiri Estaba, P.G.  
IRP Manager



# Gate 2 Shoppette History



- Removed three 10,000 gallon tanks in 2001
  - South Carolina Department of Health and Environmental Control (SCDHEC) required the installation of monitoring well (MW-1)
- Installed four 12,000 gallon fiberglass tanks with updated leak detection system to meet new state regulations.
- Monitoring of MW-1 showed gasoline contamination
- Three wells added in 2003 and seven wells added in 2004
- Discovered gasoline in MW-9 (across Moseby Street)





# Gate 2 Shoppette History



- Investigation continued with the addition of more wells (26 total) and multiple sampling events starting in 2003
- Conducted 18 Aggressive Fluid Vapor Recovery events from 2005 – 2010 to reduce contamination at the site.
- Conducted 1 Enhanced Fluid Recovery by EcoVac in 2011
- Continued contamination raised questions as to the source (old tank site or new tank site)
- Savannah COE contracted Praxir in 2011 to evaluate new system (tanks, piping, dispensers, etc.) for possible leaks (No liquid leaks found)



# Next Steps



- In 2013, Army Environmental Command, through Savannah COE, hired firm to perform corrective measures implementation
- Two contractors from LA-TX oil fields partnered for this job (QRI/PPM)
- Baseline sampling of existing wells (4<sup>th</sup> Qtr FY14)
- Results will determine next steps - Anticipated cleanup process is Dual Phase Extraction (DPE)
- QRI/PPM hired to install DPE system, but reserved the right to recommend different technologies based on specific site conditions



# Dual Phase Extraction (DPE)





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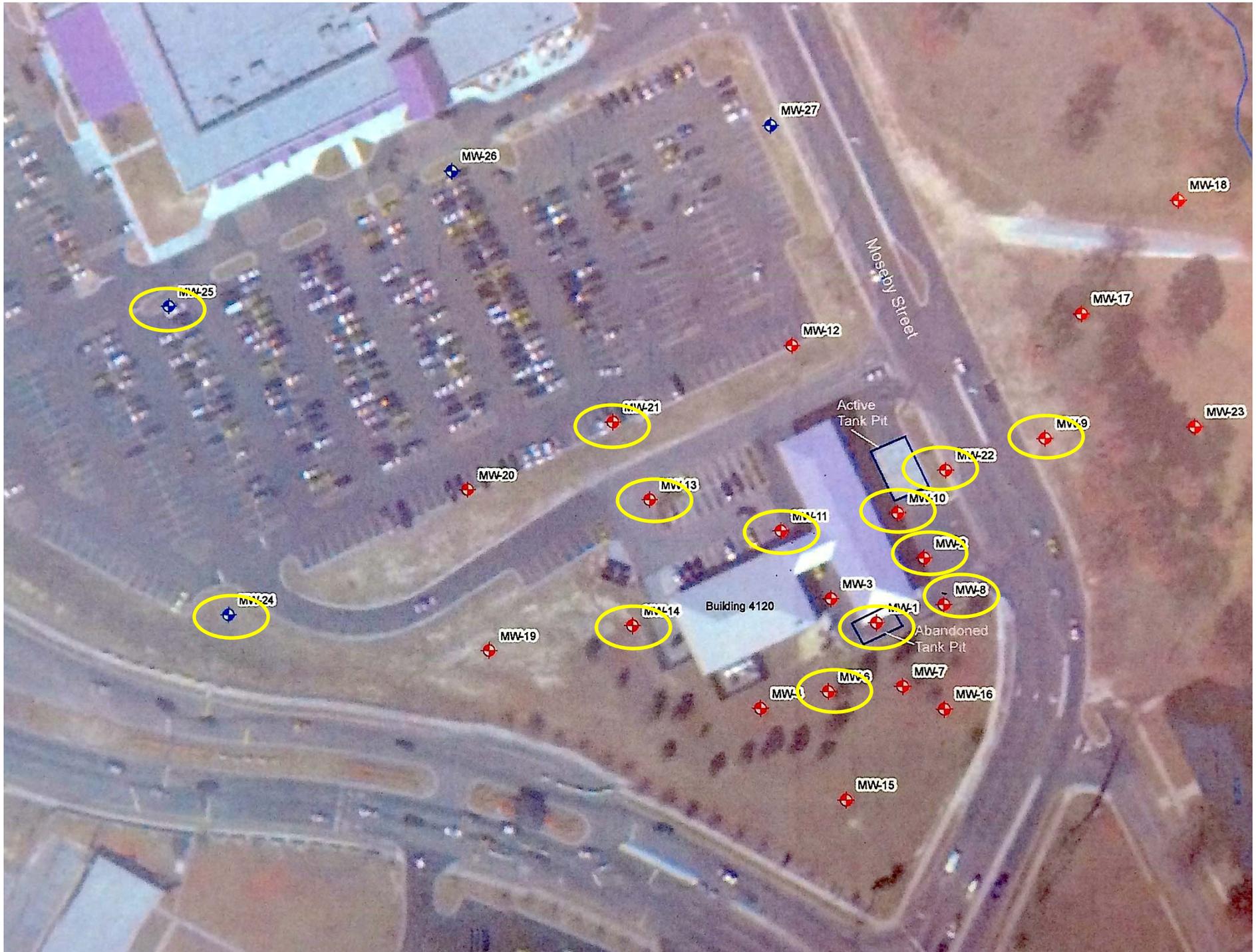
# DPE System Setup Variations





# DPE System





MW-27

MW-26

MW-18

MW-25

Moseby Street

MW-17

MW-12

MW-21

MW-9

MW-23

Active Tank Pit

MW-20

MW-22

MW-13

MW-10

MW-11

MW-2

Building 4120

MW-8

MW-3

MW-1

Abandoned Tank Pit

MW-24

MW-14

MW-4

MW-16

MW-19

MW-5

MW-7

MW-1

MW-15



# Proposed Timeline (subject to change)



- Sampling – 4<sup>th</sup> Qtr FY14
- Sampling Report – 1<sup>st</sup> Qtr FY15
- Corrective Action Plan (CAP) - 2<sup>nd</sup> Qtr FY15
  - CAP examines remedial options and selects a proposed final remedy to SCDHEC
- CAP approval from SCDHEC - 3<sup>rd</sup> Qtr FY15
- QRI/PPM will schedule the fieldwork
- Estimated time of system installation - 4<sup>th</sup> Qtr FY15.



# For Questions or Additional Information:

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# Qualified Recycling Program (QRP) Update

Ernest Dicks

Recycling Center Manager



## 3<sup>rd</sup> Quarter Activities



- Collected 4 tons of cardboard and 1 ½ tons of plastic bottles from the Torchlight Tattoo concert.
- Assisted the Solomon Center with several pizza parties that the units held.
- Held 2 recycling tours for Scales CDC schools.
- Had 2 major areas around the front entrance redone by DPW.
- \$10,000 was awarded back to the units for the recycling efforts for the 3<sup>rd</sup> Qtr.



# BCT UNITS INCENTIVE AWARDS



3rd Qtr

HHC 193 <sup>RD</sup> INF BDE	\$70	
1/13 <sup>TH</sup>	\$285	
2/13 <sup>TH</sup>	\$540	
3/13 <sup>TH</sup>	\$585	
2/60 <sup>TH</sup>	\$285	
3/60 <sup>TH</sup>	\$305	

\$2070

HHC 165 <sup>TH</sup> BDE	\$105	
1/34 <sup>TH</sup>	\$50	
3/34 <sup>TH</sup>	\$740	
2/39 <sup>TH</sup>	\$255	
1/61 <sup>ST</sup>	\$500	

\$1650



# LARGE UNITS INCENTIVE AWARDS



3rd Qtr

120 <sup>TH</sup> AG BN	\$1005	
369 <sup>TH</sup> AG BN	\$100	
187 <sup>TH</sup> OD BN	\$290	
SSI/TSB	\$585	
Moncrief	\$1135	



# ALL OTHER UNITS INCENTIVE AWARDS



3rd Qtr

HHC 171st BDE	\$85	
4/10 <sup>TH</sup> INF BN	\$360	
ATC	\$625	
DSS	\$155	
SJA	\$0	
TSSD	\$0	
175 <sup>TH</sup> OD BDE	\$25	
81 <sup>ST</sup> REC	\$135	
USACHCS	\$190	
NAVY RESERVE	\$710	
WTU	\$0	



# ALL OTHER UNITS INCENTIVE AWARDS



MEPS	\$95	
Columbia Recruiting Command	\$0	
HHC USAG	\$260	
VET SVS	\$0	
NIACT	\$115	
BARCOM	\$15	
37 <sup>TH</sup> CID	\$0	
USARC	\$0	
208 <sup>TH</sup>	\$15	
McCrary	\$20	



# 3<sup>rd</sup> Quarter Recycling Winners



BCT Units – 3/34<sup>th</sup>

Large Units – Moncrief

All Others Units – Navy Reserve



# Shred Day



Held 4 times a year,  
usually at the Recycling  
Center, from 0900-1500

May Shred Day- over  
19,000 lbs of paper collected



NEXT SHRED DAY: August 20, 2014



# Recycling Trailers





# QRP Update



- Financial Update
- Project Proposals



# Proposed Project DPW-ENV



- Purchase two food waste dehydrator units for select DFACs (Bldgs 5454/5455 and 11900) to address food waste diversion goals
- Cost: \$106,500





# Food Waste Equipment



- **Proposal:** The equipment will be utilized to reduce and/or eliminate the amount of food waste in the installation's solid waste stream (which is ~45%).
- **Request:**

Items	Location	Total
EcoVim® Eco-650	Quad DFAC (5454/5455)	\$68,000
EcoVim® Eco-250	11900	\$28,500
Misc		\$10,000
	Totals	\$106,500



# Food Waste Equipment



- Dehydrators produce water and usable compost
- Options for compost:
  - USC partnership (testing and use of materials for research/projects)
  - FJ Mulch Site
  - FJ Community Gardens
  - Installation lawn care and maintenance
  - Potential for purchase from third-party entities



# Food Waste Equipment



- Unit costs include the following items/services:
  - Shipping and installation
  - Extended warranty
  - Initial maintenance support
  - Initial equipment training
- Miscellaneous costs cover the following:
  - Biodegradable bags and containers
  - Additional training and resources
  - Unforeseen incidental items/services
- Items/services (including costs) to be determined:
  - Additional maintenance support
  - Energy consumption/potential savings
  - Additional labor requirements



# Example of savings from food waste removal



- Comparison of waste numbers BEFORE and AFTER the removal of food waste:

DFAC	Before	After	% Reduction
5454/5455	49,606 lbs	7,283 lbs	> 85%
11900	18,204 lbs	2,648 lbs	> 85%

- Approximate reduction from total DFACs: **4,852,915 lbs** (2,426 T)
- Can increase the solid waste diversion rate from **31% → 60%**
  - Based on food waste removal from DFACs
  - Potential for increased reduction with the inclusion of additional food or eating establishments (i.e. NCO Club, AAFES, schools, etc)



# For Questions or Additional Information:

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# Open Discussion



# Closing Remarks



**Next E&E Meeting**  
**16 October 2014**  
**1430**