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The Plant Exchange

The Plant Exchange is produced by members of the Plant Operations Division at the University of Michigan. Its purpose is to inform Plant Operations staff and the university community of activities, accomplishments, and information about our organization and the work we perform.

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Archives of previous Plant Exchange are located at: www.plantops.umich.edu/PlantExchange/

Fall Leaves photos taken by David Judge

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The beautiful fall colors across campus remind us that year 2011 is coming to a close. As we approach the seasonal holidays, we can reflect on some of our accomplishments during this calendar year. Plant Operations had four major Business and Finance initiatives to achieve.

Planet Blue Operations Teams:
During this past year Plant has been able to reduce university energy consumption by 8.6% in the buildings that have completed the program. This exceeds the program’s objective and has saved the University over four million dollars.

Building Services continues to implement the Operating System 1:
This program has resulted in improved cleaning results for the buildings that have gone through the program and has saved the university nearly 8%. These new cleaning techniques are at the cutting edge of modern cleaning methods.

Facilities Maintenance Services continues to implement their restructuring objectives:
Building on the lessons learned and our success with the North Campus Region, we established a second region in the Medical school area and we are beginning the initial stages for implementation in the central mechanical shops. The initiative is designed around increased scheduling and planning procedures and we are achieving a 10% reduction in the time that it takes to complete the work.

Plant Hospital Maintenance:
Our team members were fully prepared to assume the maintenance and operational duties at the new Children and Women’s Hospitals. During the first week of December three hundred patients were moved into the new facilities. The team was fully staffed and trained and had all the supporting systems and information needed to do the work.

These are just a few of this year’s highlights. Every department has been working towards performance efficiency and saving resources for the university. These are difficult economic times and all of you have risen to the challenges that we faced this year. All of Plant’s accomplishments, both large and small, are a reflection of your hard work and willingness to deal with the changes that came our way. You are the reason for a very productive and successful year.

So during this season, when many of us pause to give thanks for what we have, I want to express my sincere gratitude to each of you for all that you have done to make this a great year. Thank you, and please have a peaceful, healthy and joyous holiday season.

Rich Robben, Director
With President Mary Sue Coleman’s recent announcement of a 40% reduction in chemical usage on campus, Plant Buildings and Grounds Services is turning to more sustainable landscape maintenance practices.

Understanding all environmental conditions within a landscape, including public use patterns as well as aesthetic expectations is vital to creating a successful maintenance program.

Sustainable landscape management encourages the systems created by nature: healthy soils supporting healthy plants. The foundation of an organic program requires that the plants and soils to be viewed as extensions of one another, existing in a perfect symbiotic relationship. This “bottom up” focus contrasts with the conventional maintenance mindset of treating specific plant health conditions from the “top down” through the application of synthetic chemicals.

Organic soils management restores and maintains the natural nutrient cycling system and is at the heart of any organic landscape program. The benefits of this natural approach include improved nutrient and moisture availability and retention, disease suppression, aeration, and degradation of harmful pollutants.
Micro-organisms feed on bacteria and fungi, excreting nitrogen in a form that is easily absorbed by plants. The symbiotic relationship between fungi and roots helps plants filter needed micronutrients from the soil. An organic program focuses on building up the components needed to optimize nitrogen and nutrient cycling.

Our first steps toward implementing these management practices are to conduct some tests using Compost Tea. Compost is the aerobically decomposed remnants of plants created through the management of heat, moisture, and aeration. The result is a nutrient-rich environment for beneficial bacteria, fungi, and protozoa that can be applied directly to the soils. These microorganisms control pests (pathogenic organisms) and aerate the soil, providing the opportunity for extended root development. All herbaceous and woody materials from campus along with additional components are collected for composting. We use 4 burlap sacks each filled with 20 lbs of compost similar to how you make tea. The brew consists of water, fish emulsion, seaweed extract and molasses. We pump air into the bottom of the tank for 18 hours to create a healthy, oxygen rich environment in which the microorganisms thrive. We then apply the brew directly to the lawns.

Utilizing the campus lawns as a living laboratory, the Compost Tea Pilot Program will compare the effects of a Compost Tea amendment versus current treatment methods. We will monitor both treatment protocols at five test sites across the campus. The above and below ground response to the treatments will be assessed throughout the year. Measuring both soil and vegetation responses will not only provide information relevant to ecosystem function but also will have useful implications for landscape management on campus.

The pilot project will test a sustainable soil management hypothesis which asserts that the use of a Compost Tea amendment will increase organic matter and microbial activity in the soil, thereby reducing the need for synthetic fertilizers. Adding organic matter serves to improve soil structure, which will facilitate infiltration, aeration, and improve water-holding capacity. Together these traits increase the ability of the soil to retain nutrients and support soil microbial activity. This hypothesis will be tested through a comparison of current turf maintenance practices with those of the sustainable management program. These parameters will be measured through soil testing, with comparisons made between soils receiving current treatment and soils receiving a compost tea amendment.

The objectives of the project are two-fold:

1) Develop a pilot project testing sustainable landscape management practices on campus and
2) assess the above and below ground responses to the use of compost tea versus synthetic fertilizer.

Each site will receive the following treatments; a section of lawn will receive the standard synthetic slow release granular fertilizer, another section will receive compost tea applications and another section will not receive anything. Compost tea applications will be made monthly from May thru October, granular fertilizer applications will be made in May, September and November as per our Grounds workplan.

The Grounds department uses various types of tanks, brine makers and spray equipment as a part of the liquid de-icing program. These tanks and sprayers will be utilized for the compost tea program as well.

The five test sites listed below were selected based on the following:

1. Non irrigated / poor soil – South side of Walgreen
2. Irrigated / poor soil – North Campus Diag
3. Non irrigated / good soil – Bonisteel Blvd
4. Irrigated / good soil – West side of Music School
5. Irrigated / shade – Central Campus Diag

Soil tests and turf evaluations will be performed on all five sites. Metrics will include: standard nutrient and PH evaluation, turf density, turf color and root biomass. Hopefully the test results will indicate where the Compost Tea was successful and where we need to address poor soil conditions. The long term goal is to expand the program and subsequently reduce the amount of chemical fertilizers we use on campus.
New Recycling Bins on the Diag
by Alison Richardson

On September 21st, Grounds Services installed six permanent outdoor recycling bins on the central campus Diag. While the new bins are shaped like trash cans, the bright blue color and signage are designed to distinguish them as recycling bins. In previous attempts with outdoor recycling bins, contamination has been a major issue, resulting in the contents of entire bins being disposed of as trash. The new design and clear signage, developed with the help of the Sign Shop, aims to address this problem. The recycling bins target the four most common recyclables found in trash bins in the Diag area; plastic bottles, aluminum cans, plastic cups and paper flyers. With increased campus awareness and interest in recycling and sustainability, we hope these bins prove to be successful in capturing recyclables in the Diag area and could potentially lead to other outdoor recycling bins installations on campus.

CONSTRUCTION SERVICES

Hospital Parking Upgrades
by Samantha Brandt, photos by Jack Duey

Construction Services Hospital Group is managing a project on the Medical Campus that will upgrade signage on five parking structures. The new signs will help visitors to find the parking structures that are best suited for their visit.

The project involves removing three large parking structure identification signs and re-facing them with new graphics and parking structure names, as well as upgrading them with LED lamps so they are visible after dark. Additionally, vehicle entrances to the structures are receiving updated signs (new graphics and illuminated signs). We are working with a signage contractor to perform the work, and Construction Services is providing the major communication between the Medical Campus and campus public relations and parking groups regarding lane and parking closures.

The project will be completed in conjunction with the opening of the new University of Michigan C.S. Mott Children’s Hospital and Von Voigtlander Women’s Hospital.
Expect to see many familiar employee faces on football Saturdays at Michigan Stadium. Plant provides essential support honoring the Athletics Game Day Service Level Agreement (SLA) as well as filling customer service responsibilities. In addition, many employees volunteer their own personal time.

How does Michigan Stadium function to support over 110,000 fans during each football game? It would not be possible without the help of Plant Operations.

As Michigan Stadium expanded with 64 additional restrooms to total 89, added 18 elevators to move patrons to the new concourses and premium seating areas, increased power demands to support the infrastructure and updated technology, and implemented a comprehensive waste management recycle initiative – the job of Plant Operations grew considerably.

*Plant personnel and volunteers come together as a team to support game day. Here are some of the heroes that make football Saturdays a success.*
Having people of an organization perform in a manner that is in alignment with organizational strategy is directly and indirectly influenced by the organization’s vision and determination to see it through.

The opportunity becomes knowing how to align “what people want to do” and “what they choose to do” with the strategic initiatives of the organization, even if it means influencing change of the existing culture. This is not an easy task and it requires a great deal of understanding of how to attain and then sustain success while filtering conditions that counteract the directions towards desired success. Basically, it is necessary to have a healthy “push and pull” of activity and healthy “conflict”, as actions and results begin to move toward desired outcomes.

Managing the “push/pull” and “conflict” in a positive manner is the origin of accomplishing desire results. Gathering and managing specific data to support a lasting high performing organization is vital. Successfully integrating human, organizational and information capital throughout the effort is most advantageous throughout that process. The measure of facility value changes and it is a dynamic process. Facilities are no longer considered a static investment, but a major, controllable financial asset of our organization. Equally, more and more organizations (similar to our own) are beginning to tie long-term personnel and productivity related improvements to higher quality work situations.

Finally, Maintenance Management is gaining integrity in research, academia and healthcare because the cost of not managing the physical environment is now unacceptable and no longer just a part of “doing business”. Just take a look at the planning and scheduling initiatives occurring in our environment today. The degree of required maintenance program change will vary, but the basic need for clearly defined procedures to manage and perform maintenance activities is common and the basic theme is the use of processes and techniques that are practical for implementation.

In order for the work environment to meet increasing demands, management must learn new skills to integrate facilities with the worker and the work process; cope with change, growth and improvement; and assume responsibility for necessary decision making. Sounds simple, but how does it occur and what is the blueprint for success? How about having “Deming’s 14 Points” serve as the design of choice? It’s been around for quite a while now and the points of action identified are valid, even today.
Deming’s 14 Points

The 14 points apply to small organizations as well as to large ones, to the service industry as well as to mass production environments. They apply even to a division within a company.

1. Create consistency of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide and protect jobs. (Organizations must allocate resources for long term planning, research and education for constant improvement.)

2. Adopt the new philosophy. We are in a new economic age. Management must awaken to the challenge, must learn their responsibilities, and take on leadership for change (internal business regulations representing obstacles must be removed.)

3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place. (Quality must be designed and built into the process, preventing defects rather than attempting to detect and fix them after they have occurred.)


5. Constantly improve the system of production and service, to enhance quality and productivity, and thus constantly decrease costs. (Management and employees must search continuously for ways to improve quality and productivity.)

6. Institute training on the job. Training at all levels is a necessity, not an option.

7. Institute leadership. The aim of supervision should be to help people and machines to do a better job. Supervision of management is in need of a revamp, as well as supervision of production workers. Managers should lead, not supervise.

8. Drive out fear, so that everyone may work effectively for the company. Make employees feel secure enough to express ideas and ask questions.

9. Break down barriers between departments. People must work as a team to solve problems of production and improve quality.

10. Eliminate “slogans” that are specific for the workforce which ask for new levels of productivity. Such targets only create adversarial relationships, as the bulk of the causes of low quality and low productivity are system and process driven and thus lie beyond the power of the workforce.

11. Eliminate work standards for workers and substitute leadership. In order to meet quotas, people will produce defective products or reports and/or place quality outcomes at risk. Eliminate “management by objective” and “management by numbers” or numerical goals.

12. Remove barriers that rob the hourly paid worker of his right to pride in workmanship.

13. Institute a vigorous program of education and self-improvement.

14. Involve everybody to work together in accomplishing the transformation. The transformation is everyone’s job. Commitment from Management and employee is required.
PLANT ACADEMY

Lunch and Learn - A Focus on Lean in 2012
by Sarah Ely

Plant Academy will ring in 2012 with four brown bag sessions devoted to topics of Lean.

First applied to manufacturing, Lean has proven relevant to every kind of business and process. Its core purpose is to maximize customer value while minimizing waste.

Waste is often at the root of frustration, both in the workplace and with our customers. Examples of waste are wait time, re-work, and over-processing. These inefficiencies are not only frustrating, but costly. Lean engages workers at many levels and especially those who are closest to the work process. By using Lean tools, teams solve problems by reducing waste and creating more efficient methods to achieve the same quality job. Lean is learner-friendly. Most workshop participants seem to quickly make a connection between Lean and persisting problems in their work processes.

Lean Lunch and Learn sessions will be taught in the winter semester by U-M colleagues who teach Lean to workplaces on our campus and around the country. Plant supervisors and managers are especially encouraged to attend one or more topics to either refresh knowledge of Lean or start the path.

Descriptions of each session and registration are currently available in LearnerWeb. Questions may be directed to Sarah Ely at Plant Academy, 647-0831. All sessions are on Fridays from 11:30-1:00 at Plant Academy.

**February 3**
Introduction to Lean

**March 9**
Waste Walks: Engaging staff to eliminate Lean wastes using a Leader-Led approach

**March 16**
5s: Improve organization, decrease fundamental wastes, improve flow/efficiency

**March 23**
A3 Problem Solving: One-page tool for problem-solving and thinking

Continuous improvement is a necessity in the workplace. Lean offers proven disciplines and tools to improve any process. Jim Collins, Stanford scholar and business consultant, writes “Greatness is not a function of circumstance. Greatness, it turns out, is largely a matter of conscious choice, and discipline.”

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In Memory

On September 3, 2011, Plant Operations lost Sharon Overbee, a beloved and valued member of our operations team. Sharon worked in various areas of Plant Operations, including the POCC, PPAGO, Zone Maintenance, and most recently, Work Management.

The memorial, a Rose of Sharon bush, was planted on the west side of the Facilities Services Building. A bronze plaque noting the memorial will be placed on the wall of the building when it arrives from the vendor.
The UPE Business Services group continues to receive requests to share some of our ‘fun’ facts. These facts encompass the service we provide to the university. To keep the topic in a ‘fun’ format, we have provided you multiple choice questions. Good luck and please remember to give it your best guess! (no need to research the answers...unless you really want to) Answers are on page 12.

1. On a yearly average, how many utility vendor invoices do we process?
   A. 7,000  
   B. 10,000  
   C. 12,000  
   D. 15,000

2. How many vendors do we purchase utilities from?
   A. 18  
   B. 21  
   C. 25  
   D. 33

3. Utilities are purchased for several UM locations (not just Ann Arbor), except...
   A. Chelsea, MI  
   B. Jackson, MI  
   C. Pellston, MI  
   D. Jackson, WY

4. For the purchased utilities, how many active meters do we have set-up in our Energy Billing System?
   A. 1,151  
   B. 1,934  
   C. 2,262  
   D. 2,744

5. In 2004, we were the first university to purchase and use the Energy Billing System. What is the total number of universities using the system now? (Hint: not all universities bill their utility costs and this total is growing every year.)
   A. 8  
   B. 10  
   C. 13  
   D. 17
New Name!
In case you haven’t heard, the Plant Operations Diversity Team has a new name. We are now the Plant Operations Respect & Inclusion Team.

This Month’s Tip: Season’s Greetings!
During the holiday season, it is tradition to offer season’s greetings to friends and colleagues. As the United States becomes more diverse, we increase our sensitivity to the meaning behind our holiday greetings. When you know a person’s faith, it is appropriate to offer them a greeting for the particular holiday that they celebrate; “Merry Christmas” for Christians, “Chag Sameach” (which means “happy holiday” in Hebrew) for those celebrating Chanukah, and Happy Kwanzaa for African Americans celebrating Kwanzaa. If you are unfamiliar with a person’s faith, wishing them a Happy Holiday is an appropriate gesture that withholds any assumptions pertaining to their faith or religious practices. (Culture Coach International)

Website
We have been rebuilding our website with a new look and a new theme to go along with our new name. Be sure to visit our website (www.plantops.umich.edu/director/plant_diversity/) which launched on December 1, 2011.

Events
Our website includes an up-to-date listing of upcoming events around the U-M campus related to respect & inclusion. Many events are free but seats may be limited; an RSVP might be required. Here are two upcoming events, email us for more information:

- MLK Convocation: Jan. 16, 1.00p – 3.00p
- Realizing Common Ground: Jan. 24, 12.30p – 4.30p
- Campus Commitment: Apr. 17, 2012 1.30p – 3.30p

Contact Us!
If you have any questions about respect & inclusion issues in your department, please feel free to e-mail us at PO-RIRT@umich.edu.

Next Retirement Celebration
January 31, 2012 11:30am – 1:00pm

News from Network Services
Tau Beta Pi has installed Curtis Gomulinski as Executive Director. Curt looks forward to this new opportunity to serve the Association, and he and Tricia are excited to be settling in the Knoxville area.

Answers to the ‘Fun’ Facts multiple choice question listed on page 11.

1. D. 15,000
2. C. 25
3. B. Jackson, Michigan
4. C. 2,262
5. B. 10