Facilities Management Department
A Division of Business and Finance
Annual Report 2015
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Our Vision
A Message from the Associate VP for Facilities Management

Insights from 2015

The Facilities Management Department is focused on continuous improvement at every level of the organization. We do this in the context of the University and Business and Finance Strategic Plans. Furthermore, we keep our vision in sight as we make adjustments. That includes: excellent service, stewardship of the campus environment, professional and effective communication, accountability and being sustainable with our resources. This past year has again been productive with the necessary organizational changes as we provide the necessary services of planning, project design and engineering, construction and renovation, and facility operation services to the campus community. This Annual Report provides the highlights of each Facility Management area over the 2014-2015 FY. Topping the list of the most significant accomplishments include: a new AFSCME contract, green awards for Landscape and Custodial, reinventing the project process, and starting and/or finishing Western Heights, Heritage Hall, Waldo Stadium scoreboards, and the dining building. Some of our employees left FM for promotions elsewhere at WMU and other universities and several retired. We thank them for their service and wish them well in their new endeavors.

In the Administrative Division, IT has deployed additional mobile solutions for management and all skilled trades, expanded VMware virtual infrastructure, and migrated FM to the University Web Content Management System. Labor relations was immersed in contract negotiations. The Business Office was very active with changes to the project management process and transitioned with new staff.

The Planning, Space Management and Capital Projects Division was busy with the State Capital Outlay, dining project, Valley Pond and support for many other project ideas. This past year, FM pulled staff from different areas to create the Architecture and Design Division so there can be greater focus on the front end of remodeling and capital projects.

The Construction Division completed two new Residence Halls, Heritage Hall and dozens of other significant projects such as the Icon, Haenicke Institute for Global Education renovations, trading lab, Soccer Complex, Beltline project, Kanley Clock Tower, Stadium scoreboards, new basketball floor and many others.

The Engineering Division managed many utility projects, but most notable were the steam line replacement to the Valley, building life safety upgrade, and the new Miller chiller. They were
instrumental with a Stormwater and Sanitary grant, LEED certification, commissioning and retro-commissioning several buildings, and energy management projects. Their support with the BIM initiative for skilled trades is receiving national attention.

The Operating Division, the largest in FM, continued to improve their performance and be recognized among their peers at one of the best in FM. Custodial was awarded Green Seal Certification, integrated a behavior based safety program, and expanded process cleaning techniques across campus. Landscape was awarded the PGMS 4-Star Accreditation and Tree Campus USA. From snow removal to flowers, they make the campus look great! Maintenance launched Ipads for all skilled trades, performed many building upgrades, and improved service and efficiencies in the Service Center and preventative maintenance. The Power Plant implemented a new 12-hour shift, celebrated its 20th year under WMU operation and the turbine ownership was transferred to Siemens. The Transportation Unit continues to provide consistent and reliable service and experienced staffing changes and a new garage lift.

All of these accomplishments can only happen with a team effort by the 414 dedicated full time employees and many student and temporary employees. The people make the campus and buildings look great. Their reliable and professional services make a difference with our endless facility stewardship responsibilities. They take pride in their work and accomplishments. This organizational culture is critical for continuous improvement.
Our vision is to be an exemplary higher education facilities management organization.
We will be known for:
- Excellent service to the University community
- Excellence in stewardship of the campus environment
- Professional and effective communication
- High standards for professional and personal accountability
- Practicing sustainable development and management of campus resources

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<tr>
<td>It is our vision to lead and provide support services to FM Divisions and Units so they are successful.</td>
<td>It is our vision to create sustainable places and spaces that enrich the lives of those who use them, emphasizing the University culture.</td>
<td>It is our vision to develop, construct and deliver superior projects through excellence in problem solving, knowledge and effective project management.</td>
<td>It is our vision to build facility excellence through innovation, state of the art technological support, expertise and collaboration.</td>
<td>It is our vision to exceed our customer’s expectations through responsive, caring, and fiscally responsible service.</td>
<td>It is our vision to provide excellence in construction project management to the campus community through continuous staff engagement and implementation of the industry’s best practices.</td>
<td>It is our vision to be forward thinking partners in the future development of the physical campus, exploring bold solutions and dynamic approaches to implement the University’s mission and goals while balancing the interests of the various members of the University community.</td>
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Administration Division

Business Operations

The Business Office continues to streamline processes with our project reporting. Over the year, we have held monthly meetings with the divisions of Engineering, Construction, and Planning, Space Management and Capital Projects to communicate effectively on current issues and progress. It’s proven to be very helpful for all.

<table>
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<th>FM PROJECTS JULY 2014 - JUNE 2015</th>
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<tr>
<td>Total Number of Active Projects</td>
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<td>Total of Project Budgets</td>
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<th>BUDGETS &amp; EMPLOYEE INFORMATION</th>
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<td>Planing</td>
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<td>Business Operations &amp; Labor Relations</td>
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Information Technology Unit

Accomplishments

- Deploy laptops to management
- Improved management of active directory
- Support for Award for Excellence
- Expand VMware virtual machine infrastructure
- Migration of division and department webpages to university CMS
- Finalized Windows 7 deployments to all workstations
- Developed Microsoft group policies to manage desktop and servers
- Improve and expand WebTMA dashboards
- Improve Bronco Fix-It experience for Sign Shop requests and Project requests
- Write and maintain reports within TMA and SSRS for departmental use
- Work with service center to identify trades needs and provide solutions delivered to the iPads Deploy
- BAS access to trades iPads
- Utilize software to deliver application installs automatically to workstations
- Resolve Famis install issues
- Participate in Technology Advisory and Governance Group (TAGG)
- Printer consolidations
- New workstation imaging solution
- Virtualize RoofPro and BAS R2 environments
- Participate in NextGen email functional group
- Trades laptop upgrades for BAS and elevator
- Install Autodesk license server and desktop products
- Symantec Anti-Virus update to all computers
Labor Relations Unit

Accomplishments

- Participated in identifying a consultant to work with FM to bring efficiencies to our construction activities. This grew into a multi-prong approach which included Planning, Engineering, Construction and Design. This work lead to the POGC and a reorganization to enhance customer satisfaction and efficiencies.
- Participated in interview panels for multiple positions with the goal of complying with university policies, employment laws and diversity standards.
- Continued with the Joint Efficiencies group until it was put on hold by Human Resources.
- Worked with the FM and other AFSCME directors in preparing for negotiations. Was an active member of the negotiating team employing the Interest Based Bargaining approach and obtained a timely contract.
- Assisted with the continuation of the WEcare program by assisting with the annual employee appreciation picnic.
- Worked with the Power Plant on addressing the issues that arose with the implementation of the 12 hour shifts. Worked through contractual issues with the training committee and kept the Labor Relations Director apprised of all activity. Initiated with the training committee new, creative approaches to the on-boarding of the newer employees.
- Continued meeting with the division directors to work on common threads and work towards consistency of contract administration and disciplinary actions.
- Continued in-depth work with BCSS and Landscape management with many disciplinary issues and the settlement of grievances that benefited both parties.
- Worked with Projects and Construction to more efficiently deal with subcontracting issues.
- Worked closely with Management and the Union to engage the assistance of Helpnet, getting employees assistance with issues that were leading to termination.
- Participated in ongoing professional development: Miller Canfield annual employment seminar, Michigan Labor Management Association one-day conferences, Kalamazoo Area Labor Management monthly speaker series, and the MIAPPA conference.
Construction Division

Accomplishments

- New Residence Halls construction completion by July 2015 (5.1,b)
  Western Heights East and West Halls Completed in July 2015, student move-in completed August 2015; project completed within budget, goal met 100 per cent.

- New East Hall construction completion by September 2015
  Heritage Hall due to owner added changes project scope increased from 22,280,533 to 24,277,601 revising project completion to October 2015, project is on schedule for October 23, 2015 substantial completion, with owner occupancy scheduled for November 4, 2015.

- New Valley Dining Facility completion of design documents and construction commencement Spring 2015
  Design completion February 2015, project awarded for construction April 2015 with construction start May 2015, project completion scheduled August 2016.

- Measure client satisfaction with survey form (WEcare)
  Survey forms sent out, low rate of return, 50 per cent complete, process continues to be revised to improve customer response.

- Establish and place on-line new forms for project requests and authorization for efficiency (WEcare)
  New work order request form completed and uploaded for customer use on FM Website, new form provides tiered system for project requests, providing additional detail and scope of project. Complete 100 per cent. This goal will continue as we continue improve efficiencies and oversight.

- Establish a data base of recycling results for demolition and new construction and place on-line at the Projects and Construction Website (5.2,a,b,c; STARS)
  Complete 100 per cent. Continued data collection is generated and uploaded to website per associated projects. Data recording content reflects actual tonnage of materials recycled and materials sent to landfill.

- Measure client complaints with a goal of a 90% reduction (WEcare)
  Improvement obtained, 1 complaint received 84% improvement from 6 responses from last year. This goal will continue as we continue to develop and improve efficiencies in communications and oversight.

- Track individual efficiency by number of chargeable hours recorded on the weekly Project Time Report (5.1,a,b)
All managers record project time on biweekly basis, project time is applied to project cost in TMA database. FM has met the goal of 75% of employee time spent on projects, Goal continues to implement monthly efficiency report, Complete 100 per cent.

- Establish and place on-line new project request format for signage needs (WEcare) Web base form uploaded to website Complete 100 per cent.

2014/2015 Project Accomplishments

- Schneider Hall, Finance Trading Lab completed August 2014
- Howard Street Pedestrian Bridge upgrade, November 2014
- Freidman, Dunbar, Knauss Fire Alarm System Upgrade completed December 2014
- Icon at West Michigan Avenue, Fountain with Bronze WMU Seal completed April 2015
- Ellsworth Interior upgrade, 2nd & 3rd floor, completed July 2015
- Faunce, HIGE interior renovation, completed July 2015
- Beltline Project Grand Rapids, completed July 2015
- Student Rec Center flooring replacement July 2015
- Kohrman Hall, Aviation Classroom upgrade, completed July 2015
- Western Heights East & West Residents completed July 2015, student move in August 2015
- Battle Creek Aviation Hangar new floor surface, completed August 2015
- Kanley Chapel Clock Tower Upgrade, completed August 2015
- Lawson Player Locker Room and Lobby Upgrades, completed August 2015
- Waldo Stadium New Visual Displays and Sound System Upgrade completed August 2015
- Building Signage – Floyd Hall and Wood Hall, completed August 2015
- Miller VIP Lounge Upgrade completed September 2015
- Soccer Complex Upgrades Press Box and New Front Entrance, completed September 2015
- Lawson Auxiliary Locker rooms, sports flooring replacement, September 2015
- Read Arena game and practice floor replacement completed October 2015
- Public Safety, Evidence Room Upgrade October 2015
- Haenicke/Wood Hall Pedestrian Bridge and Tunnel upgrade, October 2015
WESTERN MICHIGAN UNIVERSITY
CONSTRUCTION DIVISION
ORGANIZATIONAL CHART
OCTOBER 22, 2015

Director
Conn Macomber

Project Manager
John Keastner

Project Manager
Dave Basselier

Project Manager
Ken Fifelski

Project Manager
Raul Garcia

Project Manager
Shannon Sauer-Becker

Project Manager
Karl Ruller

Administrative Assistant II
Lori Bell

Construction Service Shop

James Trauner
D. Wiltse
K. Huntington
D. Petrucci
G. Johnson
S. Sauer
P. Ferreira
S. Cohen
S. Heffner
J. Urbanik
C. Newman
Engineering Division

**Accomplishments**

- Completed construction of 5 bmp storm water sites on campus
- Completed annual repairs at Elsworth and Miller parking ramps
- Completed PASER roadway condition analysis on campus
- Completed steam line replacement at Sindecuse Health Center
- Completed annual roadway and parking lot maintenance paving projects on campus
- Completed conversion of outdoor lighting control to BAS at Dalton, Miller Auditorium, Bernhard Center, and Lee Honors College
- Completed Arcadia Creek Monitoring grant
- Rehabilitated ACC-1 at Haenicke Hall
- Completed initial study to upgrade the infrastructure at Lawson Ice Arena
- Initiated construction of the Goldsworth Valley steam and condensate relocation project
- Completed development of University Steam and Condensate design and construction standards
- Created a University guideline to centralize the LEED process as it relates to capital projects campus wide
- Created the Continuous Commissioning Summary that documents the history of the continuous commissioning program at Western Michigan University
- Created the Western Michigan University LEED Update Summary that tracks the status for all LEED projects associated with WMU
- Completed the commissioning (functional performance testing) of the new replacement air condition units at Gilmore Alumni House
• Helped initiate the LEED recertification process for Elson Floyd Hall and South Kohrman Hall
• Completed the retro-commissioning process for Dalton Center, Dunbar Hall, and Schneider Hall. The project resulted in a total cost avoidance of $63,000
• Selected the next series of existing building to be retro-commissioned in 2015 based on energy performance, building age, and work order history. The buildings selected are Sindecuse Health Center, University Computing Center, and Health and Human Services
• Worked with WMU FM, WMU Department of Civil and Construction Engineering, and USGBC to establish a LEED Lab course (CCE 5960: Fundamentals of Sustainable Operational and Maintenance of Existing Buildings) for Fall Semester 2015
• Further development and oversight of SAW Grant
• Capital Construction support for dining construction and integration on construction documentation for Western Heights and East Campus
• Participated on the WMU Sustainable Design Committee, whose sole responsibility was to create an updated draft copy of the WMU Facility Life Cycle Design Guidelines to be in compliance with WMU Energy Reduction Strategic Plan, WMU Climate Action Plan, and USGBC LEED version 4
• ArcGIS server migration; research into process for increasing the accessibility and better ensuring the quality of GIS data via a Relational Database Managed System
• Annual cleaning of storm and sanitary sewers
• 2015/16 parking map transitioned to being authored completely by FM GIS for DPS.
• Support for Solar Array Sighting Process at Parkview Campus
• Completed Haenicke Hall laboratory exhaust upgrade
• Completed shower head upgrades in campus apartments
• Initiated campus energy conservation behavior change program in conjunction with campus energy reduction strategic plan and battle of the buildings
• Completed Miller Parking Deck LED lighting upgrade. All parking garages now 100% LED
• Reviewed and shared how our current Facility Record folder structure reflects Project Type and Location and began consolidation effort to remove possible sources of ambiguity and duplication
• Drawings audit for 13 buildings; 4 of which have been reviewed and posted to Facility Records
• Created custodial work flow plans in Auto CAD for 16 buildings, totaling 88 plans
• Developing and refining a process for project file transitioning; introduced original concept to Projects and Construction, Engineering, and Landscaping
• Created project tracker and logged 1,445 projects and moved 1,024 projects
• Created, introduced, and began conducting Manager Project Status Reports to assist in project transitioning and to provide a directory of projects for each individual manager
• Processed owner review comments for all phases of Beltline Facility Renovations: Western Heights, Alumni Center, and Valley Dining Facility
• Created 3 new BIM models for existing buildings
• Modified and brought 35 BIM models up to existing standards as required for the addition of the new serviceable equipment
• Collected data from the field for 905 pieces of equipment to assist in TMA audit
• Created BIM for skilled trades and provided training for all shops to access information via BIM 360 Glue on iPads
• Created standards for CAD
• Reviewed and modified 331 simple floor plans (73 buildings); preparing for FAMIS use
• Created Document Room improvement plans to integrate large and small format printing equipment
• Upgraded controls in SRC and Faunce
• Addressed exhaust issues in Haenicke
• Addressed network issues with a large and growing BAS
• Miller parking structure elevator modernization including: new interior cab with lighting stainless steel walls and diamond plate floor, new hoistway doors for all three levels, and new controller, pump unit, operating fixtures, and hoistway wiring
• Updated old AC fire alarm system in Draper/Siedschlag with new Simplex 4100 ES fire alarm panel
• New smoke detectors installed in bedrooms for Valley 1, 2, and 3
• Sprau Tower elevator upgrades including replacement of wood paneling inside of cab, new ceiling with LED lighting, and new floor
• Added three new elevators to monitoring system
• Repaired or replaced emergency lights and exit signs at Gilmore Shaw Theatre
• French Hall 1960 elevator safeties were replaced with Hollister Whitney device to meet existing elevator specifications and comply with elevator code
• Replaced first Miller chiller per chiller Master Plan
• Provided emergency repair of Bill Brown Alumni Center chiller
• Initiated design services for replacement of Waldo Library cooling tower and Bill Brown Alumni Center Chiller
• Completed shop drawings review for New Residence Hall and Dining Facility; attending meetings with periodic site visits
• Completed restoration of Gabel Pool filter system resulting from Lawson mechanical room flood
• Provided technical assistance to trades and FM construction related to mechanical systems
• Design development for Waldo library substation replacement
• Electric metering system upgrade to WinPM6.0 and system support
• GVA Overhead line replacement
Planning, Space Management and Capital Projects Division

Accomplishments

- Developed Campus Wayfinding Master Plan
- Found a suitable location for the new Autism Center
- EUP Beltline Facility renovation and program and schematic design
- Development of a viable solution to the location of the doctorate of the Physical Therapy program
- Revamped Planning Division web pages
- Completed Kanley Chapel Tower design
- Updated the Five-Year Capital Outlay Plan
Operations Division

Custodial Services Unit

Accomplishments

- Completion of Green Seal Certification submission- to include completion of process and procedure development in the following areas
  AWARDED January 2015
  - Comprehensive customer communication plan
  - Site specific (building- CHHS) green cleaning program including staffing, scheduling and work requirements This will include SOP review for all BCSS procedures to insure compliance with Green Seal requirements
  - Equipment preventative maintenance program
  - Auditing/inspection program
  - Floor (hard surface and carpeting) care program-
    *Applies towards WMU strategic plan- 2.1c; 2.2b; 2.3c; 4.2a; 5.1a; 5.1d; 5.2a; 5.2c

- Managerial staff (supervisors, managers, director) education and training focusing on custodial operations- completed January 2015
  *Applies towards WMU strategic plan- 2.1e; 2.3c

- Effective and efficient workforce management (to limit extra expenditures and focused service)- Zone I implemented Fall 2014
  *Applies towards WMU strategic plan- 2.1c

- Implement on-line supply ordering to provide streamlined workflow – implemented fall 2014
  *Applies towards WMU strategic plan- 2.1c

- Offer graduate research opportunity to develop an integrated behavior based safety program- offered and completed student work early summer 2015
  *Applies towards WMU strategic plan- 1.1c; 2.3a
**Landscape Services Unit**

### Accomplishments

**Replaced/Repaired and Patched Steps in Several Locations**

- Re-sealed stamped color concrete at:
  - Riverwalk in the Fountain Plaza
  - Crosswalks on West Michigan Avenue
  - Patio and walks at 1201 Short Road
  - Crosswalks on Archer Drive at Bernhard Center
- Repaired brick entrance walk and stained/resealed “W” at 1201 Short Road
- Repaired several large brick walkway areas at Schneider Hall and Fetzer Center from broken and missing bricks.
- Repaired brick steps on the Miller Auditorium verandah
- Patched steps from Lot 100 to Faunce Student Services
- Repaired access ramps at Faunce Student Services
- Patched steps from Western Avenue leading to Lawson Ice Arena
- Sidewalk repairs at CEAS loading dock area
- Patched steps at Walwood
- Repaired back steps at Parking Services
- Repaired concrete surrounding fuel pumps at Campus Services
- Repaired a multitude of tripping hazards throughout campus
- Repaired storm drain at Lot 69/68 that was undermining the walk, steps and wall

**Hardware, Fencing & Furniture**

- Installed fencing around the Upholstery Shop
- Repaired 14 sections of decorative fence along MDOT’s non-motorized path
- Installed new fencing for Miller parking ramp storage per Parking Services request
- Installed new fencing in Dalton Center for security storage area
- Installed new gates on Kanley Track fencing
- Davis Street fencing, ongoing repairs
- Fence repairs due to tree storm damages at the following locations:
  - Waldo Stadium
  - Campus Services
Asylum Lake
- Power Plant
- Installed decorative fencing along Howard Street for Tim Kellogg’s strip mall
- refurbished 20+ plexus benches and 11 carousel umbrellas
- Removed over 250 ash urns and ashtrays throughout campus in adherence of the new tobacco free policy
- New hoists were installed in the Garage to assist with University fleet vehicle service

Landscape Enhancements
- Wood Hall German Bearded Iris bed
- Gilmore Theatre entrances
- Stadium Drive/Howard Street entrance sign
- Stadium Drive/Oliver Street entrance sign
- Haenicke Hall center cut-through
- Amphitheater entrance off of Shaw Lane
- South side sign bed at Library
- Faunce sign bed
- Chemistry “cattle path”
- Ad Building south west of Icon
- Walwood entrances
- Campus Services’ front entrance
- 1201 Short Road patio
- Physical Plant Parking Lot 7 along Stadium Drive

We either removed old landscape materials and/or completely built new to add to campus features in all our enhancements. In some areas improvements were made for maintenance efficiency.
- We sprayed a non 24D product for broadleaf weed control over several areas to suppress the dandelion population to a dull roar at:
  - Read Fieldhouse/SRC
  - Ad Building
  - Bernhard Center
  - Sangren
  - McCracken
  - Miller Auditorium/Gilmore Theatre
  - Round-a-Bout
- Direct involvement with several major landscape improvements related to building projects including:
  - Western Heights
  - New dining facility
  - Heritage Hall
  - New icon
  - Way-finding study
  - GV Pond study; re-landscaping in 2016
o Storm water retention areas
• Removed graffiti as needed
• Sprayed Round-up to control weeds at campus shrub beds, tree wells, parking lots, curb lines, sidewalks, fence lines, etc.
• Mulched approximately 95% of campus shrub beds and tree wells using shredded bark
• PLM applications for algae at GV and CEAS ponds

Annual Flowers

• Installation of 6,000 square feet of annual flower beds:
  o The 3-D floral peacock at Miller Circle Drive
  o Miller Circle Drive
  o Chemistry Building
  o Waldo Library
  o Haenicke Hall
  o Schneider Hall/Fetzer Center
  o Gilmore Theatre
  o Lee Honors
  o Bernhard Center
  o Kohrman Hall
  o Ad Building
  o The Oaklands
  o Welborn Hall
  o Trimpe Building
  o Moore Hall
  o CHHS
  o 1201 and 1219 Short Road
  o Elmwood Apartments
  o Five flower trees at the Chemistry Building and one at CEAS
• 190 plus planters circulate around campus
• 58,000 square feet of existing perennial and grass gardens

Campus Trees

• Seventh consecutive year to achieve the distinction of Tree Campus USA awarded through the Arbor Day Foundation
• The University Tree Walk was expanded and updated
• Implemented tree assessment protocol to value trees impacted by construction
• Tree History – 1991 to 2015:
  o Trees Planted = 1,829 total
  o Purchased/planted and/or transplanted
  o 42 total trees planted in 2015
• Trees Transplanted = 313 total
  o Taken from various building construction projects and moved/transplanted to different sites throughout campus
Nine trees were transplanted/saved in 2015
- Tree Take-Downs = 702 total
  - Storm damaged, health and safety hazards
  - Trees in building construction zones too large to safely and/or successfully transplanted
- A total of 50 trees were removed in 2015
- Two new management plans were incorporated into the LS Best Management Practices: Parkview Campus Management Plan
  - Wildlife Management Plan

### Natural Areas

#### MAIN CAMPUS
- 410 hours of staff and visitors tours, educational programs and volunteer service events
- 500 hours of student tours, training, educational programs and volunteer events.
- Staff mentor for five undergraduate students.
- Facilitated and consulted on research projects for two graduate students.
- Served 5 faculty professors with field programs and classroom presentations.
- Facilitated grant purchases for Gibbs farm compost heater.
- Consulted with Gibbs Farm on issues of permaculture, native landscapes and wildlife.
- Participation in Office for Sustainability forum.
- Participation in development of student intern position between WMU Environmental Studies and Pretty Lake Adventure Camp.
- Managed invasive plants in Valley woodlots, WVA hillsides, SDA Savanna, Lawson
- 300 additional woodlot trees identified, measured (DBH) and mapped using GPS.
- Propagated 2000 Native plants in WMU Biology Department Finch Greenhouse.
- Consultation on native plantings and design elements for new construction: Valley Dining Unit, East Campus Alumni Center, Western View Apartments, Western Heights residence halls, Goldsworth Valley Pond, Colony Farm Orchard.
- Updating woodlot management plan.
- Tree Campus USA application and publication 2014.
- Identification and management of rare Dwarf Hackberry tree population.
- Assisted training for Admission Student Ambassadors.
- Assisted in training Orientation Student Leaders.
- Assisted in presentations, data collection and interviews for PGMS award.
- Tour for PGMS certification team and GVSU landscape staff.
- Programs and activities for Bio Club, Science Scholars, St. Thomas Moore, FYE, Holtyn & Assoc.
- Construction of 30 Bird boxes for natural areas by student volunteers.
- Program for preschool group at Children’s Place.
- Facilitated capture and transport of resident swans from main campus to Parkview campus.
- Trained 3 students on use of GPS unit for natural areas data collection.
• Worked with Facilities Management GIS student to create maps, and programs for presentations.

PARKVIEW CAMPUS
• 240 customer hours of educational programs, volunteer events and tours for staff, students and visitors.
• Completion of CEAS/BTR management plan and implementation of management activities on existing prairie landscape.
• Construction and coordination of new swan facilities at Parkview campus.
• Identification and management of newly discovered population of Dwarf Hackberry trees.
• Assisted in student recruitment programs for College of Engineering and Applied Science
• Initiated identification, measurement and GPS data collection for native trees at CFO

KLEINSTUCK PRESERVE
48 acre nature preserve owned and managed by WMU with labor and additional resources provided by volunteers from The Stewards of Kleinstuck.
• 730 adult volunteer / education hours
• 1570 student volunteer/ education hours

Research
• Kalamazoo Nature Center avian monitoring.
• Monthly photo monitoring at 10 sites.
• Seasonal Purple Loosestrife beetle monitoring in marsh.
• Student wildlife investigations using remote game camera.

Education
• Kazoo School weekly programs and service events.
• Kazoo School Earth Day event with parents, teachers and students.
• Montessori School seasonal programs and service events.
• Kalamazoo Math and Science Center (KAMSC) visits.
• Parkwood Upjohn School visits.
• Maple Street public school visits.
• Saint Augustine’s day of service.
• ENVS Service learning class mentor, presentations, tour of preserve, facilitate student projects.
• Programs for YMCA summer camp
• Stewards of Kleinstuck programs:
  Frog Walk, Piping in the Preserve, Owl walk, Wellness Walk, History Tour
Ecological Improvements

- Stewards of Kleinstuck sponsored monthly workdays and community days of service with local volunteers removing invasive species, planting native plants, trail improvements, and educational programs.
- Seasonal Garlic Mustard and Dames Rocket pulls with volunteers.
- Cut invasive brush and enlarged overgrown sedge meadow.
- Application for prescribed burn permit for invasive brush management.
- Planted 500 native plants grown in WMU’s Finch Plant Science Greenhouse.
- Sowed 15 pounds of native seeds.
- Maintaining student native planting plots.
- Addition of bird nest boxes in sedge meadow.
- Worked with arborists to maintain trails and address tree safety issues.

Infrastructure Improvements

- Working w/City of Kalamazoo and WMU to facilitate continuing sanitary sewer maintenance and restoration of vegetation along easement/trail in Kleinstuck.
- Implemented storm water management plan for Chevy Chase entrance developed by Keiser and Associates.

ASYLUM LAKE PRESERVE

- 274 acre nature preserve owned by WMU under the management of the Asylum Lake Policy and Management Council (ALPMC), a volunteer group composed of local citizens, WMU faculty and staff
- 150 adult volunteer/education hours.
- 700 student volunteer/education hours.
- Sponsored Asylum lake Policy and Management Council (ALPMC) visioning retreat.
- Liaison for ALPMC, implementing council projects and facilitating meetings.

Research

- Dr. Sharon Gill, Erin Grabarczyk, WMU Biology: Effect of anthropogenic noise on the behavior of wrens.
- Alex Ebenstein :Asylum Lake Mobile Phone Application
- Dr. Todd Barkman, WMU Biology: Oak forest regeneration field study.
- Dr. Steve Kohler, WMU Environmental Studies: Asylum Lake water Quality field study.
- Thomas Howe, WMU Geoscience: Geophysics field study.
- Tyler Bassett, MSU / ALPMC: Pre and post, prescribed burn vegetation analysis.

Education

- Hosted 200 students and adults for “Outside in our Schoolyard” event with Kalamazoo Nature Center, WMU Office of the President and four area middle schools.
- WMU First Year Experience volunteer day.
- Asylum Lake Celebration Day sponsored by ALPA and WMU natural areas.
FACILITIES MANAGEMENT DEPARTMENT

2015

- M-TECH class presentation on the native communities of Michigan.
- ENVS class presentation on the native communities of Michigan.
- Visits by Orientation Student Leaders.
- Wellness and FM staff walks of preserve.
- KIA student photography class tour.

Ecological Improvements
- Continuing ecological restoration work by Wildtype, LTD removing invasive species from upland Oak forest sites.
- Management of Oak savanna site with volunteer students and neighbors
- Additions and maintenance to bluebird nest box trail.
- Planning with contractor and Kalamazoo fire marshal for prescribed prairie burn (delayed due to weather)

Infrastructure Improvements
- Added 3 welcome signs, 3 dog waste stations and 3 information boxes to preserve entrances.
- Assisted City Of Kalamazoo Utility staff on survey and maintenance of Sewer line along North shore of Preserve.

Miscellaneous off campus outreach programs and events
- Natural areas and native plant presentations at MSU, Kalamazoo Wild Ones, Wenke Greenhouse, Oshtemo Rotary, River City Wild Ones, Western Hills Garden Club, Indian Hills Garden Club,
- Facilitated volunteer work events for Focus Kalamazoo.
- Organized meeting with Michigan Native Plant Producers to discuss the current science and art of native landscaping.
- Organized and hosted meeting of area teachers and KNC staff to plan for Asylum Lake Adventure day.

SNOW REMOVAL
Snow removal tactics:
- Landscape Services started researching and reviewing the new liquid anti-ice and deicing tools 12 years ago to see if they could be used in our snow and ice removal operations. Eight years ago we were anti-icing our walks and also started pre-wetting some of our bulk road salt. Today, we pre-wet (pile treat) all of our bulk salt supply for roads, lots, and walks. We continue to use anti-icing tactics on sidewalks. We use beet juice at six gallons per ton for a pre-wet and use 80-20 mix; 80% natural brine and 20% beet juice for anti-icing applications.

WMU’s campus includes:
- 24.6 lane miles of roads
- 39 miles of sidewalks
- 60 lane miles of parking lots
• Total of 123.6 lane miles to de-ice for every snow/ice event

As a point of reference; 123.6 lane miles is like driving two times from Kalamazoo to South Haven and back.

<table>
<thead>
<tr>
<th>Average Seasonal Snowfall = 72”</th>
<th>Snow Total</th>
<th>Amount of Salt Used</th>
<th>Tons Used per Inch</th>
<th>Pounds per Lane Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07 Season*</td>
<td>76.5”</td>
<td>1,740 Ton</td>
<td>27.74</td>
<td>368</td>
</tr>
<tr>
<td>2007-08 Season**</td>
<td>95”</td>
<td>1,710 Ton</td>
<td>18.0</td>
<td>291</td>
</tr>
<tr>
<td>2008-09 Season***</td>
<td>126”</td>
<td>1,403 Ton</td>
<td>11.13</td>
<td>180</td>
</tr>
<tr>
<td>2009-10 Season</td>
<td>80”</td>
<td>1,184 Ton*</td>
<td>14.8</td>
<td>239</td>
</tr>
<tr>
<td>2010-11 Season</td>
<td>79”</td>
<td>1,248 Ton*</td>
<td>15.79</td>
<td>256</td>
</tr>
<tr>
<td>2011-12 Season</td>
<td>54.5”</td>
<td>927 Ton</td>
<td>17</td>
<td>275</td>
</tr>
<tr>
<td>2012-13 Season</td>
<td>64”</td>
<td>1,100 Ton</td>
<td>17.18</td>
<td>278</td>
</tr>
<tr>
<td>2013-14 Season</td>
<td>117.8”</td>
<td>1,442 Ton</td>
<td>12.24</td>
<td>198</td>
</tr>
<tr>
<td>2014-15 Season****</td>
<td>75.3”</td>
<td>1,220 Ton</td>
<td>16.2</td>
<td>262</td>
</tr>
</tbody>
</table>

*Untreated salt and no anti-icing tactics used
**Began anti-icing tactics on walks
***Began pre-wetting all bulk rock salt and continue to use anti-icing techniques
****We discovered this year that for snow events late in the season and as snow piles melt, melt water refreezes and creates very slippery conditions, thus we had to reapply salt over most surfaces. Conclusion: the pounds per lane mile is actually quite lower than the figure shown as it relates to the total snow fall

The above matrix shows significant reductions of salt usage per inch of snow fall per lane mile of plowed surfaces. There has been an overall reduction of 30% of salt usage over the last 8 years.

2014-15 Snow Statistics
26 Snow Events
4 Freezing Rain Events
75.3” of Snow

The Use of Beet Juice as a Snow Removal Tool
Beet Juice:
• Environmentally friendly; 100% organic
• Lower overall lane mile cost; amount of salt usage drops
• Proven residual effect
• Begins de-icing process immediately
• Reduces bounce and scatter
• Improves melting efficiency
• Rinses solids concentration
• Help prevent black ice
• Prevents salt piles from clumping and freezing

Campus Community Expectations:
• Roads, parking lots, walks and entrances open and clear of snow and ice by the start of each business day for vehicle and pedestrian traffic alike

Conditions that Affect Landscape Services Snow Removal Efforts:
• A trace to 4” of snow before 10 p.m. will be cleared by 8 a.m. the next morning
• A snow fall greater than 6” will take 24 hours to clear after the end of storm
• Early morning snow fall that continues throughout the day hampers our ability to keep surfaces clean and clear, but they will be passable until the end of storm, at which point total clean-up will be completed within 24 hours

Complaints from the campus community are followed up immediately by a supervisor who will contact the appropriate snow removal operator. The concern will be addressed in a timely fashion as work load and weather dictates.

Snow Removal Complaint Summary:

<table>
<thead>
<tr>
<th>Winter Season</th>
<th>Snowfall Total</th>
<th>Number of Complaints</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Streets &amp; Lots</td>
</tr>
<tr>
<td>1996-97</td>
<td>unavailable</td>
<td>107</td>
</tr>
<tr>
<td>1997-98</td>
<td>unavailable</td>
<td>38</td>
</tr>
<tr>
<td>1998-99</td>
<td>unavailable</td>
<td>108</td>
</tr>
<tr>
<td>1999-00</td>
<td>unavailable</td>
<td>24</td>
</tr>
<tr>
<td>2000-01</td>
<td>unavailable</td>
<td>139</td>
</tr>
<tr>
<td>2001-02</td>
<td>unavailable</td>
<td>89</td>
</tr>
<tr>
<td>2002-03</td>
<td>unavailable</td>
<td>33</td>
</tr>
<tr>
<td>2003-04</td>
<td>61”</td>
<td>56</td>
</tr>
<tr>
<td>2004-05</td>
<td>59”</td>
<td>41</td>
</tr>
<tr>
<td>2005-06</td>
<td>52.5”</td>
<td>23</td>
</tr>
</tbody>
</table>
### Athletics

- **Projects**
  - Laser graded Hyames and Ebert skins
  - Installed new soccer goals

- **Support for Athletic Events**
  - 16 softball games
  - 18 soccer games
  - 5 football games
  - 6 tennis matches
  - 31 basketball games
  - 5 gymnastic meets
  - 1 cross country meet
  - 12 volleyball matches

- **Support for Athletic Camps**
  - Football, basketball, baseball, softball, volleyball, soccer

- **Support for SRC Events**

---

<table>
<thead>
<tr>
<th>Year</th>
<th>Snowfall</th>
<th>Plow</th>
<th>Salt</th>
<th>Sand</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>76.5&quot;</td>
<td>29</td>
<td>30</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>2007-08*</td>
<td>95&quot;</td>
<td>19</td>
<td>24</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>2008-09**</td>
<td>126&quot;</td>
<td>21</td>
<td>24</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td>80&quot;</td>
<td>21</td>
<td>17</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>2010-11</td>
<td>79&quot;</td>
<td>5</td>
<td>14</td>
<td>19</td>
<td></td>
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<tr>
<td>2011-12</td>
<td>54.5&quot;</td>
<td>5</td>
<td>16</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>2012-13</td>
<td>64&quot;</td>
<td>10</td>
<td>16</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>2013-14***</td>
<td>117.8&quot;</td>
<td>41</td>
<td>12</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>2014-15</td>
<td>75.3&quot;</td>
<td>7</td>
<td>14</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>

*Pre-wetted entire load of bulk salt to use on roads, lots, and walks
**Continued anti-icing of walks w/an 80 to 20 mix of natural brine and GeoMelt
***90% of complaints were direct result of timing issues; heavy snowfall rates began in early morning hours just prior to school opening
- IM softball games; IM football games; IM soccer games; tarps for events in SRC, Lacrosse Club team, and Rugby Club team

- Support for Special Events and Community Events
  - USTA Zonals Tennis Tournament, USTA Midwest Tennis Tournament, USTA Nationals Tennis Tournament, ITA Tennis Tournament, MHSAA Tennis Tournament, Rocket football, Girls on the Run, community baseball games, Baseball Scout Day, St. A’s track day, Homecoming March Down, Special Olympics, baseball tournaments, high school tennis tournaments (separate from MHSAA), high school basketball; NFL Pro Day; MAC Gymnastic Championships, softball game rentals, high school indoor track

**Equipment Improvements**

- Replaced one Bobcat w/snow blower
- Miscellaneous small equipment replaced as needed; weed whips, blowers, etc.

**Support for Special Events & Community Activities**

- Bronco Bash
- Homecoming
- Campus Classic 5K Run
- Athletic Events
  - CommUniverCity Night
  - Home Football Games (5)
  - USTA @ Sorenson Courts
- BTR Bike Race
- Student Garden Organization
- Fall Welcome Activities
- Residence Hall Move-In/Move-Out
- Various Residence Hall Life activities
- Tree Walks and Garden Tours for staff and students
- WMU Commencements
- Kalamazoo Holiday Parade
- WMU United Way
- Kalamazoo In Bloom
- Asylum Lake Preserves
- John F. Kennedy Center Five Senses Garden
- Various Dedication events
- Spring and Fall Into the Streets
- Stewards of Kleinstuck

**Additional Support to Other Departments**

- Ratification of new 2015-18 AFSCME contract
- Coordinate AFSCME uniform fitting/ordering process for FM Department
- Assist Logistical Services by delivering large, bulky items
- Assist Maintenance Services by transporting heavy items and staging equipment
- Pallet recovery/recycling; campus wide
- Assist art department by moving exhibits and displays using heavy equipment
- Assist ESEM w/disposal of research animals
- Assisted OFS with Gibbs House property
- Assisted with all AFSCME picnic logistics
- Assist Parking Services with various needs
- Assist Student Activities with various events
- Assist Athletics with various events and activities
- Assist University Relations with events and activities
- Change flags/banners at Tent Promenade for International Student Services
- Control the American flags at the Tent Promenade

**Departmental Recognitions**

- Professional Grounds Management Society (PGMS) 4 Star Accreditation: The PGMS conducted the on-site evaluation phase of the Landscape Management and Operations Accreditation program at Western Michigan University to determine the level of accreditation that the Landscape Services division should receive. Before, during and after the site visit, the Evaluation Team was provided with information and documentation to support the validity of responses to the program’s grounds management best practices. The 38 best practices are derived from 18 key principles that collectively reflect the highest values that should be embraced by a progressive and transformative grounds management organization as determined by the PGMS. Based on written responses submitted to each best practice, verifications obtained from meetings with administrators, staff and front-line employees along with the Evaluation Team’s observations from the campus tour, a numeric rating was assigned to the best practices. As a means for depicting an applicant’s status the ratings go from “no activity” being the lowest, to “best practice in place, monitored and reviewed” receiving the highest rating.

- The evaluation team determined that the cumulative rating for Western Michigan University Landscape Services qualifies for the granting of four (4) stars out of the four (4) star level accreditation offered by the PGMS Landscape Management and Operations Accreditation program. Inarguably, this accomplishment was made possible by the commitment and hard work of a lot of individuals and superior leadership. While reaching this level of accreditation is a testament to how well the organization is functioning during these most demanding times, the achievement is very likely unattainable if pursued as an independent endeavor. Satisfying many of the best practices requires the nurturing of good inter-departmental relationships and the explicit support from informed senior administrators. The leadership at WMU is to be commended for providing the Landscape Services division with the resources necessary to excel and to be an effective contributor to the University’s vision for a sustainable future.

- Renewal of our status as a “TreeCampus USA” through the National Arbor Day Foundation for the seventh consecutive year
• Staff members Jerry Fulbright Jr. and Tim Holysz were recognized by the ‘Make a Difference Award’
• Tim Holysz received the APA Outstanding Professional Award
• Highlighted in Facility Maintenance Decisions Magazine
• Several news articles published for FM Newsletter
Maintenance Services Unit

Accomplishments

- Continued to update and distribute on-call for supervisor rotation schedule, and trades call-in contact information
- Facilitated with roll-out of new two-way radios
- Received backflow preventer re-certification
- Completed - asbestos awareness training, respirator, lock out –tag, etc.
- Co-authored Response to Campus Climate Study Recommendations and Campus Climate for Diversity, Equity, and Inclusion Tactical Action Community – Final Report
- Updated the plumbing code
- Fifth year of participation in the Everyone Counts Faculty Professional Learning Community, fourth year as Facilitator
- Installed new road and walk lighting at Elmwood Apartments, Trustee fountain, and Faunce
- Upgraded lighting at parking ramp 2
- Investigated steam and condensate leaks at Valley 1, Draper, Burnhams, and Moore hall. All will need condensate line replaced
- Restored Lawson rink equipment after flood
- Upgraded heat pumps at Walwood and Bill Brown, Lawson Dehumidification System
- Successful implementation of changes in SM Payroll
- Successful implementation of changes of new deadlines in Hourly Payroll
- Successful implementation of changes in new FMLA reporting
- Participation in overtime process improvement system
- Holtyn Associate Wellness Champion – held/organized/hosted 6 wellness events for the Physical Plant
- Another grievance free year of payroll and overtime completion
- Another smooth transition in front loading AL (no complains, adjustments, or grievances)
- Another successful year of hosting 8 Dining Service employees for the summer which included the front loading of their AL (no complaints, adjustments, or payroll issues)
- High overtime volume was successfully met; scheduling/awarding/overtime summaries (no grievances)
- Attended university events: Earth Day tree planting, sculpture dedication, PSSO events, Poker Walk, lectures, etc
- Prepared campus, stadium and surrounding areas, for football season
- Touchup and painting done in Bistro 3, Burnham Dining, Bernhard Center, Valley 1 Dining, Valley 3 Dining and Lounge, Draper-Siedschlag, and Spindler
- Service Center is now almost completely paperless
- Updated On-Call book
- Trained technician’s how to use their iPad’s for daily tasks such as completing work orders and adding their labor
- Upgraded condensate pumps in French Hall, Valley II, Valley III, and Draper
- Re-built Air handlers in Valley I, Valley III, and Bernhard Center. New shafts, bearings, bearing supports, sheaves, and bushings, Control Air Compressor
- Converted 191 Elmwood apartments from proportional to two-position furnace control
- Installed low flow shower heads in all Elmwood and Stadium Drive apartments
- Negotiated a new, Camfil 3 year materials contract for indoor air quality filtration and media
- Central Tool Crib at Campus Stockroom
- Processed 12,178 web request, accepted 5,266 phone request
- Trending 5.5 minutes for web request process
- Average time to complete Do It Know work orders – 4 days
- Average time to complete preventative maintenance work orders – 43 days
- Created 17,458 service work orders
- Scheduled 11,506 preventative maintenance work orders
- Extended service center operating hours
- Completed service center phone system upgrade to align with other campus central service center
- Achieved Collective Bargaining Agreement 2015-2018
Robert Beam Power Plant Unit

Accomplishments

Every year is special at the WMU Robert M. Beam Power Plant, however, this past fiscal year had several events of particular singularity that made it especially memorable.

The first was implementation of a new 12 hour shift developed by the employees and generously supported by management. This replaced an 8 hour fixed shift scheduling system that had been in place over 60 years. Some shifts under this old system did not have a weekend off, but with the new shift schedule all employees now have at least every other weekend off. After being somewhat skeptical at first, the employees have come to embrace it. It has certainly improved the employee's work-life balance and resulting in increased employee moral as well.

Another significant event was the transfer of our gas turbine service agreement that we've had with Rolls Royce Energy Systems (RRESI) for a number of years to Siemens in November. Siemens, a major company headquartered in Germany, bought RRESI earlier in the year. We weren’t entirely sure what to expect with this new arrangement but are glad to report the initial results have been entirely positive. A particular highlight was Siemens agreeing to store a lease engine on site in the power plant giving us ready access to another engine on short turnaround. Having this lease engine on site has already saved us tens of thousands of dollars.

An unexpected development occurred during the course of our operating permit review with the Michigan Department of Environmental Quality, when it was unexpectedly determined that our engine generator that had been in operation since 1999 was no longer in compliance due to a subsequent change in the regulations reflecting new CO2 emission requirements. The unit was immediately shut down on August 29th and efforts begun to restore this unit to compliance. It was truly a team effort leading to the subsequent installation of a catalytic converter over the Christmas break by plant staff in cooperation with Michigan Cat. The unit later passed certified compliance testing with confirmed "0" (zero) CO2 emissions in January.

An unexpected highlight this past year was a change to our storm water permit initiated by Ms. Lu DeBoeuf of Environmental Health & Safety, who, entirely through her own initiative, worked the DEQ and was able to secure a change to our permit status from "Industrial" to "General". This represented a major and positive change and recognized the many efforts made here at
the power plant to protect Arcadia Creek from coal pile runoff and other possible sources of contamination.

Not all events in a power plant are necessarily positive, and in this regard the fire in the high voltage generator enclosure cabinet will always be a vivid memory. Fortunately plant staff and the City of Kalamazoo Public Safety responded quickly and professionally to prevent a bad situation from becoming quickly and potentially far worse. Special mention is given to Mr. Jeff Landers and Mr. William Long for their courageous actions in being first responders to this incident.

In terms of milestones from this past year, the Robert M. Beam Power Plant celebrated its 20th year of operation which began on November 6, 1994. It's absolutely amazing what has been accomplished in the past twenty years and we are certainly looking to build on our past going forward.

The annual AFSCME/MSEA picnic was held at the power plant for the first time in August to rave reviews.

And, finally, in the arena of unique events from this past year, it should be noted that the power plant survived unscathed the May 2nd earthquake that hit Kalamazoo, however, it was definitely noted and felt by the operators on shift at the time.

Other highlights from this past year are shared below:

### Staffing

Maintaining the revised authorized staffing level of 17 bargaining unit positions was a challenge in the beginning of the year when two employees unexpectedly resigned during the same week in August. Efforts immediately undertaken to expedite replacement of these two positions to minimize the burden placed on the balance of plant especially in light of the new 12 hour shift schedule recently implemented in July. Mr. Brad Oswalt began work in October 2014 followed by Mr. Andrew Ferrari in December of 2014 thus restoring us to our full complement of 17 positions. It's interesting to note that the nature of power plants is such that employees tend to stay a long time, however, in our particular instance, we found ourselves with nearly 25 percent of our staff (4 employees) with less than a year's experience. Mr. Matthew Cronkhite and Mr. Demetris Appleton had joined the staff back in January 2014.

### Scheduling

Beyond the implementation of the new 12 hour shift schedule, mention needs to be made of how the employees, by themselves, developed a system converting the old three-carbon paper leave request system to a "paperless" system done entirely through email and the "cloud". Two employee schedulers are now regularly employed to review all leave requests and forward to management for final approval. The fact that an employee's particular schedule can now be identified years in advance allows them to do this. The scheduling Leave requests by the employee are now responded sometime within minutes as opposed to weeks or months previously. This has been a tremendous boost to the scheduling system, as well as very much
appreciated by the employees, and a development totally unexpected when the new schedule was first rolled out.

**Training and Development**

The Apprenticeship Training Program celebrated its 13th year in existence this past year having begun on April 15, 2002. Mr. Rick Boyd and Mr. Steve Durian joined the ranks of employees to graduate from the apprenticeship program this past year bringing to 9 total graduates of the program since it’s advent with 8 current active graduates (one has since retired). Beyond that, we have two with advanced UJ-1 level certifications, Jeff Landers and Art Priest. Both are presently working towards their advanced level 2 certifications this year.

An unexpected challenge for the Training Committee this past year was in addressing the educational needs of some of our newest employees who did not have the boiler house experience of previous hires and who, because of the nature of seniority system for shift preference, all ended up on the night shift working alongside other inexperienced employees. This problem was quickly recognized and addressed highlighted by Mr. Michael Walden's development and implementation of a 10 class "Boilerology" course at Kellogg Regional Manufacturing Center (RMTC) where we conduct our classroom training through their open enrollment program. Beyond this, these employees are scheduled periodically on "training days" where they have the opportunity to have a dedicated day of training working alongside experienced operators as well as making regular presentations on their "learning experience" to the Committee. So far the results are encouraging and we hope to document further improvements in performance in the year to come.

Our "professional development program" approved my management began to take shape this past year with the posting and subsequent filling of the new "Assistant Chief Operating Engineer" position by Mr. William Long who has performed excellently in his new role, with his authorship and generation of the "Boiler Room Bugle" being a particular highlight. We look forward to continued advances in the professional development program this coming year, particularly in regards to expanding the role and responsibility of Mr. Walden.

**Turbine Trips/Outages**

This was yet another year of no electrical outages from Consumers Energy resulting in their main breaker to the power plant opening and causing the plant and campus to go "black" until power could be restored. I always like to take this opportunity to note that we have one of the most robust electrical supply and distribution systems that I know of. We have two separate high voltage power 46 kV power supplies from Consumers from different part of their system, two 100% capacity transformers, looped switches from the power plant through a well maintained, nearly totally underground distribution system to campus buildings.

However, we did have one storm related gas turbine trip on Friday, September 5th (yes, the same time as Bronco Bash) that not only blew them away but also affected the operation of the turbines in the plant causing them both to trip off as well. This outage was mentioned to highlight that Consumers worked with us in forgoing what would have been very high electrical demand charges resulting from this.
The other major turbine outage from this past year was a result of the aforementioned generator enclosure fire on January 14th. This knocked off both turbines and steam to campus, however electrical supply from Consumers was maintained throughout. In another gesture of support, Consumers agreed to reduce the historic peak charge from this trip to the next highest one.

Two other unscheduled turbine trips were recorded during this fiscal year on January 3rd (off peak) and February 27th (on-peak) bringing our total unscheduled turbine trips for the year to 4 - down two from the previous year. This is something we hope to further improve on this coming year.

Safety and Environmental

Certainly glad to report yet another in a long line of years (at least 10 and counting) with no loss time due to on-the-job injuries. And this is from plant staff performing all the major hard, physical work required to maintain and operate a power plant.

We feel very blessed to have the resources of Environmental Health & Safety available to us and supporting our employees and operation. With their support, the standard set of required safety training was completed for plant staff including hearing protection, asbestos awareness, lock-out tag-out, respirator fit testing, lift truck testing and training and confined space training.

Plant staff completed the balance of installation of the ambient gas sensors in the plant that were triggered as a result of a failure of a fitting in the high pressure gas line in the plant last year.

Annual boiler internal and external inspections successfully completed on all boilers (five at the central plant and three at ERC) with no major issues or problems to report.

An arc flash and coordination study was completed for the central plant. A similar effort is now underway for ERC.

The power plant remained in environmental compliance with all regulations and reporting requirements this past year including addressing proactively the issue with the CO2 emissions on the engine generator. All required emission reports both to the state and federal branches of government were completed as required by law.

We completed our Renewable Operating Permit (ROP) application this past year. Our new permit became effective April 15, 2015, and is good for 5 years. Testing is now required in the first year of the permit. We are in the process of arranging certified testing of our stack emissions this coming November.
Other items of note

Major chiller work was completed at ERC this past winter (it's hard to believe these units are now 12 years old) with Chiller 2 being totally rebuilt after a successful eddy current test. The bearing on Chiller 3 was also replaced as part of this effort.

Dan List was very helpful identifying and documenting the routing of the drain line from the cooling tower sump at ERC with the assistance of Clean Earth.

Plant staff was formally recognized by President Dunn at the United Way campaign celebration for 12 consecutive years of 100% staff participation in United Way.

Plant staff made what was a very well received presentation to KALM (Kalamazoo Area Labor and Management) on the new 12 hour shift schedule at their January meeting.

The power plant underwent a virus test by the university IT department. Potential areas of weakness were identified and corrected with the help of the FM IT Department.

The power plant conference room was upgraded to incorporate the latest in classroom technology with the support of Joshua Grant of IT.

Worked with FM in developing a new web page for the power plant consistent with the new university standards.

Worked with the FM Utility Strategy Committee in reviewing the effect of Consumers proposed new electric rates along with generating a rate analysis proposing a "free steam" billing methodology that was later accepted.
Western Michigan University
POWER PLANT
ORGANIZATIONAL CHART
OCTOBER 22, 2015

Key:
OPR = Operating Engineer
UTT = Utility Technician - beginning apprentice
UTS = Utility Specialist - completed 50% of program
UTJ = Utility Journeymen - successfully completed 100% of program
UJ1 = Advanced Level 1 Journey Level Achievement
Elec = Electrical/Instrumentation journey program trained
Mech = Mechanical journey program trained
Day/Night Shift "A" & "B" 12 hour shift crews
Mission Statement
Transportation Services is dedicated to providing exceptional service and customer care to the university community with safe, reliable and well maintained vehicles and equipment, balancing sustainable technologies with cost effective practices.

Vision Statement
To be recognized by the university and the community as a leader in reducing our environmental footprint by embracing emerging technologies that meet the needs and expectations of the university.

Personnel
Early this year Mike Ambs, one of our three licensed mechanics was given the opportunity to move to the Landscape Services department as their construction specialist. Mike was a true asset to Transportation Services and would make an even better asset to Landscape Services with his background and experience in construction work. We wish Mike well as a Landscape construction specialist; he left Transportation Services in early June. Charles Henderson joined the Transportation Services team the beginning of August. Chuck is a State licensed Master Mechanic and his experience working on a wide variety of vehicles and equipment make him a good fit within our department. Chuck is familiarizing himself with Western Michigan University and the many types of vehicles and equipment that make up the university fleet. We welcome Chuck to the Western Michigan University Transportation team.

Equipment Upgrade
The vehicle lifts in the garage are essential pieces of equipment that we use on a daily basis. Each year we have them inspected, hydraulically tested and certified safe to use. Due to age and deterioration over time one of our large in-ground vehicle lifts did not pass the inspection and was removed from use in March of 2014. At that time we were warned that our other large in-ground vehicle lift was also showing signs that it too would be unsafe in the near
future. This spring we were fortunate enough to have both of them replaced. For most university vehicles we are able to use the smaller vehicle lifts to do the repairs and servicing but we also have some larger vehicles that make a large vehicle lift necessary. We replaced one of the large in-ground vehicle lifts with another large vehicle lift; the new lift has a higher lifting capacity than the old one and will lift up to 32,000 lbs. The other large vehicle lift was replaced with a smaller in-ground vehicle lift.

**Routine Service**

The majority of our routine vehicle services have been completed on time and within expectations. Due to the construction of having the two lifts replaced and the loss of one vehicle mechanic for a few months our work load has been higher than normal.

All routine generator services were completed on time and within expectations.

The yearly routine dielectric testing of the aerial lift trucks was completed in the middle of April as planned.

**Vehicle Purchases this Year**

- Police Services vehicles
- 2 - Police Cruisers (DPS)
- 1 – Service body pickup truck (parking Services)
- 2 – Small SUV/crossover (Admissions, President’s office)
- 1 – Utility vehicle (ICA)
- 2 - Pickup truck (Aviation & Landscape services)
- 3 – Small pickup trucks (Parking Services)
- 4 – Compact mini cargo vans (BCSS, Waldo Library, Dining Services & lock shop)
- 1 – Full Size passenger vans (BCSS)
- 12 – full size cargo vans (maintenance services)
- 3 – Full size Medium roof cargo vans (maintenance services)

**Vehicle recalls this year**

- 10 - Chrysler
- 30 - Ford
- 33 - General Motors

**Sustainability**

- Each spring all of the floor drains and the automotive hoist containment areas are cleaned and vacuumed by an environmental cleanup company to keep any residual liquids from migrating into the surrounding ground and causing contamination.
- Recycling of all paper, cardboard and plastic.
- All old batteries are picked up by the vendor and recycled when the new batteries are delivered.
- 30 - gallons of antifreeze was recycled
- 1,230 - gallons of used oil was recycled
- 1 – 55 gallon barrels of crushed oil filters were recycled
- 232 – tires were recycled/reclaimed

**Continued Education Training**
We had 14 hours of automotive training per mechanic this year.