A Message from the Director

As fiscal year 2014/2015 ends I would characterize our results and efforts as continuous improvement to enhance the campus, increasing productivity and efficiency, and planning for significant changes to the campus. Schematic design planning has been completed for a new science addition that would include the demolition of Mudd Hall, an addition to the Weitz Center that would house the Music department and result in the demolition of Concert Hall and Arena Theater, and the renovation of Scoville Hall for the Admissions department that would lead to a new home for the Career Center in Johnson House. Schematic design and estimates will be presented to the Board of Trustees in October and we will be anxious to hear the reaction and direction as to when these projects might proceed to the next phases of design and construction.

In response to the Facilities Master Plan, plans for new construction of facilities, the Climate Action Plan, and anticipated investment needs in our aging steam and chilled water plants, we have been developing a Campus Utilities Master Plan over this past year. This plan defines strategic investments in our equipment and distribution over multiple phases and several years that will improve efficiency, significantly reduce Carleton’s green house gas emissions, and serve the campus utility needs for many decades.

Energy conservation was a focus this past year as we implemented energy saving projects recommended from the first round of energy audits completed last year and completed a second round of energy audits on another set of buildings. In addition, the maintenance department partnered with energy to complete repair and maintenance projects with upgrades to reduce energy consumption and costs. We have completed over 100 energy conservation project upgrades to campus.

We have made other investments in our organization and facilities to reduce costs, increase productivity, and improve the service we provide to campus programs and constituents. For example, we have purchased new equipment in Grounds that is better suited to achieve our goals and respond to campus needs. This has enabled us to complete more work with a better outcome. Maintenance and Custodial have improved response time to work orders and requests through back log management and better communication tools and processes. They have worked hard to use the work order database in new and better ways to schedule and complete work requests. The responses to the monthly customer survey questions are very positive with over 97 percent responding with positive comments while completing over 15,746 work orders last year.

This year in particular I have heard more positive comments from people on how great the campus looks and positive changes we have made to improve the College. In the past we have always heard about the good things we have done, but this year the comments seem to focus on the overall improvement our efforts have made to the entire campus. The small (and large) things we do all do add up and we all should take pride in the accomplishments and work we do. We can not achieve these results without the hard work of everyone in the Facilities Department. Our consistent goal to serve the needs of the College while looking for ways to continuously improve and make things better than what they are today will continue to identify rewarding challenges that I am confident we are ready to complete.

My sincere thanks to all of the Facilities employees who work hard each day to be good stewards of the College facilities and property.

Steve

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2014-15 Project Highlights

Taking care of building exteriors remains a priority. Burton Hall received much attention last summer that included a large roof replacement project that re-opened the skylights on fourth floor and was the focus of our annual residence hall interior facelift program that upgraded the hallways, restrooms, lounges, and lighting. Because of Burton Hall’s large size we were not able to complete painting and carpeting inside students rooms and will plan for a future second phase.

Exterior wall stone repairs and replacement were done at Gould Library over the windows on the east and north sides due to poor design. The founder’s court planters and walking surface required major repairs. The West Gym entrance bridge deck was replaced as the concrete has deteriorated from age and the flat roof between the gym and pool area was replaced.

There were a number of grounds related projects completed last summer. We partnered with Physical Education and Recreation (PEAR) to improve the rugby and lacrosse fields and to reconfigure the cross country starting line area. The restoration of the Burton lawn and addition of automated irrigation was deemed a success and we planned to expand these strategies to other campus areas. We installed the piping infrastructure to expand irrigation to the bald spot and surrounding areas as a first step with later phases that add sprinkler heads and we want to begin turf improvements to the west side of the Chapel. Mai Fete and Stewsie Island bridges required some fairly sizable repairs.

We completed the replacement of the Evans Hall wooden bridge, after delays in receiving permits from the Army Corps of Engineers resulted in the project not moving forward the previous year.
83% of all regular work orders were completed on time (within 8 days), a 2% increase over last year’s rate.
- Custodial Services received 38% fewer work orders from the prior year, while Maintenance and Grounds experienced an increase of 14%.
- 2,810 of the 12,827 work orders received for Grounds and Maintenance were for preventative maintenance on building equipment/systems. That number is 173 higher than the previous year.
- The number of Priority 1/Emergency work orders received continues to decline, with emergency calls in all areas falling well below 1% of total work orders, thereby meeting the departmental goal of less than 3%.

Facilities Customer Service Survey

Customer surveys were sent out to a random selection of work order requesters throughout the fiscal year. 155 individuals responded, as compared to only 16 respondents during the second half of FY14. Of those responding, 97% stated that their request was completed within an acceptable amount of time from the date of request and on a scale of 1-5 (1 being “poor” and 5 being “exceeds”), respondents stated that their overall average level of satisfaction with the completed task was 4.7%. Responders also provided many favorable comments regarding Facilities staff.
Community Service

Custodial Scholarship Fund

The Annual Custodial Scholarship Fund Bake Sale and Craft Fair was a huge success. On December 5, 2014 a warm and balmy Friday, there were over 90 vendors and lots of happy shoppers who kept the Weitz Center warm and festive, while helping a great cause.

Last year the Custodial Scholarship Fund received a total of $2,892 from this event. This year we are happy to announce that the Craft Fair, which consists of tabling fees, raised $1,502 and the Custodial Bake Sale, which includes proceeds from the pastries and coffee (donated by Bon Appétit), and sales of sloppy joes by the Bake Sale Committee raised $1,780, for a grand total raised for the Custodial Scholarship Fund of $3,282.

Custodian Pat Flynn established the Custodial Scholarship Fund in 1993 and over three-quarters of our custodial staff donate back a portion of each paycheck to help fund an endowed scholarship given annually to Carleton students.

Training & Development

• The fourth annual Facilities staff training event was held on December 9, 2014. Opening remarks emphasized the importance of using required personal protective equipment (PPE) which was the theme for the day. Group session topics included radiation, blood-borne pathogens, and pandemic training. After required training topics were presented, staff were required to attend a “Haunted House of Horrors” and identify all of the safety hazards on display. They were also able to choose two break-out sessions from the following options: About the Arb, AED training, Campus Safety or Emergency Response presented by Security, Wellness by HR, Stretch, or Chair Yoga led by Athletics staff. While lunch was served, training-related quiz questions were projected on the screen. Maintenance and Grounds staff attended afternoon sessions on lock-out/tag-out training, spill prevention and control, fall protection, and confined space.

• Other Facilities department development and training this year included:
  • Facilities Senior Accountant attended and presented at the Wizard Software User Conference in Chicago in September.
  • Grounds staff attended the Northern Green Expo which is our industries annual conference.
  • Manager of Campus Energy and Sustainability Martha Larson and Facilities Director Steven Spehn attended the Big Ten and Friends Mechanical and Energy conference at the University of Iowa.
  • Maintenance Manager and Manager of Campus Energy and Sustainability attended the 2014 Trade-lines Conference on College and University Science Facilities.
  • Carleton Manager of Campus Energy and Sustainability completed a one-week training course and exam to become a Certified Energy Manager (CEM) through the Association of Energy Engineers.
  • Manager of Campus Energy also attended Electro-Industries Shark Electric Meter Training Workshop.
Sustainability Initiatives
Keeping it green

ENERGY CONSERVATION
- In 2014 Carleton adopted a Facilities Master Plan that focuses on building restoration and replacement, limiting campus growth over the next 20 years to only 3% beyond existing square footage. This approach strongly curbs future growth of utility consumption and greenhouse gas emissions.

- Carleton is systematically implementing campus-wide energy audits and conservation projects. Over 100 conservation measures have been completed since FY 2011, many coupled with other maintenance needs. In total, these projects annually save an estimated 1 million kWh, 27,000 therms, and $94,000 in utility costs. Total cost of all projects was $758,000 for a simple payback of approximately eight years.

WASTE REDUCTION
- **Lighten Up Sale** - Our focus this year was to better educate our students about the sale in the hopes of reducing the number of items going into the landfill. Given the numbers below, we achieved our goal!
  - $37,500 was donated to three partnering non-profits: The Northfield Union of Youth, Project Friendship, and Special Olympics.
  - 1,100 pounds of food was rescued from the dorms and donated to the local food shelf.
  - 700 pairs of shoes were donated to Funds2Org via Three Links Care Center.
  - 100 bags of leftover clothes were donated to the Minnesota Internship Project.
  - Dozens of boxes of toiletries were given to low-income housing projects in Rice County. Dumpster tonnage at move out was noticeably less than prior years!

- **Furniture Replacement Plan** - Facilities explored affordable and sustainable furniture solutions to renovate its faculty housing program. CORT furniture solutions was selected to fully furnish the 16 units, including sofas, dining tables and dressers. In addition, CORT worked with Carleton College to repurpose the existing furniture so it could be reused rather than sit in a landfill. View the following link to see an article titled “CORT Rental Solution helps Carleton raise the bar on faculty housing” published in University Business magazine, http://www.universitybusiness.com/news/cort-rental-solution-helps-carleton-college-raise-bar-faculty-housing.

- **Wastebusters Program** - Wastebusters is a student-STA collaboration to reduce waste on campus. Thanks to their efforts the waste costs are trending downward because of their added monitoring of our waste sites. Many interested students and staff organized a field trip to tour the new DSI recycling facility during Climate Action Week. Staff and student involvement has reduced our waste expenses since 2010 by nearly one-third. Compost and recycling volumes both continue to increase.

STUDENT ACTIVISM & OUTREACH

*Through student groups, curricula and work positions, Carleton students are engaged in making our campus more sustainable.*

- Carleton’s Weitz Center hosted a half-day climate summit titled “Forecasting Change: Minnesotans Respond to a Changing Climate.”

- Carleton’s annual Climate Action Week generated widespread participation in events such as winter camping, a faculty panel exploring discipline-specific perspectives on climate change, and a showing of the movie “Wasteland” at the Weitz Cinema.

- Carleton’s LEED Gold Weitz Center hosted a Community Solar Public Forum event organized by the Southeast Clean Energy Resource Team (SE CERT) and University of Minnesota Extension’s Southeast Regional Sustainable Development Partnership. Presenters included Power Up Winona, Northfield Area Community Solar, Solar Connection. Manager of Campus Energy and Sustainability, Martha Larson provided an overview of Carleton’s renewable energy systems followed by a tour of the Cassat-James solar PV and solar thermal systems.
Greenhouse Gas Emissions

Carleton’s total greenhouse gas emissions are below peer averages, due primarily to installation of the Kracum Wind Turbine in FY 2012 which serves approximately 30% of Carleton’s central plant electric consumption. Emissions since then are heavily weather dependent, reflecting an unusually warm winter in FY 2012 and an unusually cold winter—and increased fuel oil use—in FY 2014. Compilation of FY 2015 GHG emissions data is currently in progress, but totals are expected to be less than FY 2014 due to a slightly warmer winter and decreased natural gas / fuel oil consumption.

Scope 1: direct emissions from fuel burned on site (boilers, vehicles, etc.)
Scope 2: indirect emissions from purchased electricity
Scope 3: other indirect emissions i.e. waste, fleet vehicle fuel, commuting, study abroad travel, staff/faculty travel, fertilizer, and refrigerants

Wastebuster Program

continued from page 6
resulting in annual waste cost savings. During breaks our waste locations were switched to on-call pickup rather than modifying pick-ups. Carleton students are obviously generating less trash at move out. Record amounts of donations were received at the Lighten Up Sale rather than the landfill.

FY 2015 showed the following increases in waste volumes: compost increased 10%, recycle increased 32%, and landfill increased only .2%. Carleton was able to compost and recycle nearly 79 tons more waste than last year.
Wind Turbine Production Reports

FY 2015 vs. FY 2014 Wind Turbine Production

**Turbine Production Statistics**

Carleton has two wind turbines, the second of which was installed in 2011 and is directly connected to Carleton’s electrical grid. In FY2015 it produced 29% of campus electricity, saving nearly $300,000 in annual utility costs. FY 2014 was a record year for wind turbine production.

- Wind Turbine #1 produced 4,637 MWh of electricity in FY 2015 and earned $149,513 in electricity sales to Xcel. FY 2015 production was 4% lower than FY 2014.
- The Kracum Turbine (#2) produced 4,598 MWh of electricity in FY 2015 serving 29% of Carleton’s central plant electric load and reduced purchased electricity expenses by approximately $326,477 (gross). Production was 3% lower in FY 2015 than FY 2014.

For more information, see buildingdashboard.net/carleton (click “Comparisons” then “Wind”).

![Wind Turbine Production Chart](chart.png)
The campus grid consumed 11,200 MWh of electricity in FY 2015, nearly equal to FY 2014 consumption. Total cost was $795,593 and the blended rate dropped from $0.074 / kWh in FY 2014 to $0.071 / kWh in FY 2015.

Total FY 2015 electricity consumption (grid + wind) was 15,797 MWh, a 1% decrease from FY 2014.

The Central Plant consumed 125,041 MCF of natural gas, a 1.5% increase over FY 2014. Total cost was $704,810 and the blended rate dropped from $5.73 / MCF in FY 2014 to $5.64 / MCF in FY 2015.

The Central Plant consumed 29,408 gallons of fuel oil in FY 2015, 81% less than FY 2014.

Total Central Plant heating consumption was 130,409 MMbtu, an 11% decrease from FY 2014.

Total Central Plant energy use (electricity + heating) was 184,402 MMBTU; down 8% compared to FY 2014. Energy use intensity (EUI) dropped from 118 kBTU/sf in FY 2014 to 109 kBTU / sf in FY 2015.

The Cassat-James solar photovoltaic (PV) system produced 10 MWh of electricity in FY 2015, saving approximately $710 in purchased electricity costs.

Budget & Financials

### Carleton College Facilities Departments
#### Budget vs. Actual Expenses
6/30/2015

<table>
<thead>
<tr>
<th>Department</th>
<th>Budget (excluding compensation)</th>
<th>Actual</th>
<th>Encumbered</th>
<th>Available</th>
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<tbody>
<tr>
<td>Facilities Management</td>
<td>56,144.00</td>
<td>23,952.52</td>
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<td>32,191.48</td>
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<td>Grounds</td>
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<td>Building Maintenance</td>
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<td>Campus Utilities Departments</td>
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<td>Campus Waste Management</td>
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<td>Custodial Services</td>
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<td>199,820.16</td>
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<tr>
<td></td>
<td>5,046,677.00</td>
<td>5,139,344.98</td>
<td>633,326.25</td>
<td>5,194,198.77</td>
</tr>
</tbody>
</table>

All Facilities Departments finished the 2015 year with favorable balances.

### Annual Facilities Operating Expenses

<table>
<thead>
<tr>
<th>Category</th>
<th>2014</th>
<th>2015</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Expenditure</td>
<td>5,046,677.00</td>
<td>5,139,344.98</td>
<td>1.8%</td>
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<tr>
<td>Energy Cost</td>
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<td>704,810</td>
<td>11.5%</td>
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<td>Natural Gas Cost</td>
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</tr>
<tr>
<td>Fuel Oil Cost</td>
<td>704,810</td>
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<td>40.9%</td>
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<tr>
<td>Electricity Cost</td>
<td>795,593</td>
<td>1,139,344.98</td>
<td>42.9%</td>
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</tbody>
</table>

NOTE: This information is from the FY2013-2014 Sightlines Benchmarking Analysis. (2014-15 data will be collected in September.)