Mission Statement
The Landscape Services division members are dedicated to providing excellent service to support University events and activities. We believe that the campus grounds should reflect the quality of life, educational, and research missions of the University.

Our mission is to enhance the learning and working atmosphere by providing a safe, clean, and aesthetically pleasing exterior environment for students, faculty, staff and visitors of Western Michigan University.

All of this is provided with an emphasis on responsible environmental and fiscal stewardship.

Vision Statement
We believe that a Landscape is a means of Communication. Our Environment can affect us far more than we are aware.

We look at the “features” of our campus as destinations or places for those looking for cultural exposure, interconnection, security, belonging, and sense of self identity or a variety of reasons that may or may not be apparent.
We believe that placemaking is an art and science to develop spaces that stimulate or fulfill these needs. In this we look to our campus as a collection of spaces remaining diverse, yet interconnected with the “Sense of Place” that is Western Michigan University. Our students, faculty, staff and visitors will take this with them.

**Accomplishments:**

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

- Repaired 6 Drains
- Repaired 3 curb and gutters
- Repaired 7 step complexes
- Repaired 6 sidewalk areas
- Repaired a multitude of tripping hazards throughout campus
- Applied 51.03 yards for the above repairs = 2,755 square feet of concrete surface

**Hardware, Fencing & Furniture:**

- Fence repairs due to tree storm damages
- Refurbished and replaced plexus benches at the Trustee Fountain

**Landscape Enhancements:**

- Direct involvement with several major landscape improvements related to building projects including:
  - Western View
  - New dining facility
  - Heritage Hall
    - West Outlook
  - Goldworth Valley Apartments
- Goldworth Valley Pond Enhancement
- Way-finding study
- Storm water retention areas
  - Sprayed Round-up to control weeds at campus shrub beds, tree wells, parking lots, curb lines, sidewalks, fence lines, etc.
  - PLM applications for algae at GV and CEAS ponds

**Annual Flowers:**
- Installation of 6,000 square feet of annual flower beds:
  - The 3-D floral peacock at Miller Circle Drive
  - Miller Circle Drive
  - Chemistry Building
  - Waldo Library
  - Haenicke Hall
  - Schneider
  - Hall/Fetzer
  - Gilmore Theatre
  - Lee Honors
  - Bernhard Center
  - Kohrman Hall
  - Ad Building
  - The Oaklands
  - Welborn Hall
  - Trimpe Building
  - Moore Hall
  - CHHS
  - 1201 and 1219 Short Road
  - Elmwood Apartments
  - 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:**
- Ninth consecutive year to achieve the distinction of Tree Campus USA awarded through the Arbor Day Foundation
- Tree History - 1991 to 2016:
  - Trees Planted = 1,875 total
    - Purchased/planted and/or transplanted
  - 46 total trees planted in 2016
  - Trees Transplanted = 314 total
    - Taken from various building construction projects and moved/transplanted to different sites throughout campus
    - One trees were transplanted
  - Tree Take-Downs = 726 total
    - Storm damaged, health and safety hazards
    - Trees in building construction zones too large to safely and/or successfully transplanted

A total of 24 trees were removed in 2016
- Parkview Campus Management Plan continues
- Wildlife Management Plan continues
Sustainability/LEED-EB Initiatives

- Fourth year of certification in the Michigan Turfgrass Environmental Stewardship Program (MTESP)
- Adhere to all mowing protocols
- Adhere to all fertilizing protocols
  - Non-phosphorus fertilizers used on all campus lawns
  - Organic fertilizer is being used to lessen the impact of commercial fertilizers and build micro-biotic action in the soil
- We continue to move towards a pesticide free campus. This was our eighth season not using 24D products for broadleaf weed control
- Use of IPM Practices for all pest control activities:
  - We apply the least toxic pesticide only after proper protocols are followed using all strategies of IPM practices first and foremost. All pesticides are scrutinized by our Environmental Health and Safety department and the director's approval is needed before we are allowed to use a product. Two major factors determine whether or not a product can be used; human toxicity and environmental effects. When a chemical is approved, everyone involved receives safety training.
- Adhere to all storm water management protocols including storm water pollution prevention initiatives and maintenance plans.
- Computerization of irrigation systems to the BAS (building automated systems)
- Recycle the following materials:
  - Yard waste
  - Wooden pallets
  - Concrete rubble and asphalt
- Our equipment is subject to a strict preventative maintenance (PM) program during the off-season winter months. All landscape services equipment, from Bobcat skid loaders to Workman carts; from riding mowers and push mowers to weed whips and blowers and everything in between are taken apart and repaired and/or in some cases rebuilt (i.e., engines) before the growing season begins.
  - Our mechanic keeps a maintenance log on each piece of equipment he services; for PM's, repairs, and routine maintenance (i.e., oil changes). We can determine the longevity of individual pieces of equipment by reviewing the mechanic’s log. This allows us to prioritize replacements based on costs and operating efficiencies.
  - Continuing the process of incorporating small equipment in TMA for inventory and maintenance recording
Natural Areas:
WMU Facilities Management, Landscape Services Natural Areas and Preserves Program, serves Western and the Kalamazoo community through the stewardship of 500 acres of university property for ecosystem integrity, passive recreation, education and research.

MAIN CAMPUS
- 1600 customer hours of Staff student and visitor tours, training, educational programs, volunteer events and mentorship for student class projects and internships.
- Served 7 faculty professors with field programs and classroom presentations and facilitated work of graduate students research on University properties.
- Served 14 students through meetings, information and resources needed to facilitate class projects and internships.
- Propagated 6000 Native plants in WMU Biology Department Finch Greenhouse. Distributed Native plugs to 10 local groups and organizations.

PARKVIEW CAMPUS
- 150 customer hours of educational programs, volunteer events and tours for staff, students and visitors.
- Construction coordination and management of new swan facilities for 4 swans at Parkview campus ponds.

KLEINSTUCK PRESERVE
48-acre nature preserve owned and managed by WMU, with labor and additional resources provided by volunteers from The Stewards of Kleinstuck.
- 3000 customer hours of tours, programs, volunteer events and management in the Preserve hosted by Natural Areas and the Stewards of Kleinstuck.
- Served 6 local schools with classroom and field programs.

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
- 1000 customer hours of tours, programs, and volunteer events for Adults and Children.

Miscellaneous off campus outreach programs and events
- 400 customer hours of off campus outreach programs and events.
**Snow Removal**

Snow removal tactics:
- Landscape Services started researching and reviewing the new liquid anti-ice and deicing tools 13 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 Season Snowfall</th>
<th>Snow Total</th>
<th>Amount of Salt Used</th>
<th>Tons used per inch</th>
<th>Pounds per land mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12 Season</td>
<td>54.5&quot;</td>
<td>927 Ton</td>
<td>17</td>
<td>275</td>
</tr>
<tr>
<td>2012-13 Season</td>
<td>64&quot;</td>
<td>1,100 Ton</td>
<td>17.18</td>
<td>278</td>
</tr>
<tr>
<td>2013-14 Season</td>
<td>117.8&quot;</td>
<td>1,442 Ton</td>
<td>12.24</td>
<td>198</td>
</tr>
<tr>
<td>2014-15 Season****</td>
<td>75.3&quot;</td>
<td>1,220 Ton</td>
<td>16.2</td>
<td>262</td>
</tr>
<tr>
<td>2015-16 Season</td>
<td>71.4&quot;</td>
<td>1259 Ton</td>
<td>17.63</td>
<td>305</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.
2015-16 Snow Statistics
55 Snow Events
2 Freezing Rain Events
71.4” of Snow
1 Freezing Fog
1 Flash Freeze

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>Streets &amp; Lots</th>
<th>Walks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>79”</td>
<td>5</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>2011-12</td>
<td>54.5”</td>
<td>5</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>2012-13</td>
<td>64”</td>
<td>10</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>--------</td>
<td>------------</td>
<td>---------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Snowfall</td>
<td>117.8&quot;</td>
<td>75.3</td>
<td>71.4</td>
<td></td>
</tr>
<tr>
<td>Ice</td>
<td>41</td>
<td>7</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Complaints</td>
<td>12</td>
<td>14</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Trucks</td>
<td>53</td>
<td>21</td>
<td>34</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
Athletics

- Projects
  - Installed edging and decorative stone around soccer shrubs
- Support for Athletic Events
  - Softball games;
  - Soccer games;
  - Football games;
  - Tennis matches;
  - Basketball games;
  - Gymnastic meets;
  - Cross country meet;
  - Volleyball matches
- Support for Athletic Camps
  - Football, baseball, softball, volleyball, soccer
- Support for SRC Events including field maintenance and game preparations:
  - IM softball games; IM football games; IM soccer games; tarps for events in SRC, Lacrosse Club team, and Rugby Club
- Support for Special Events and Community Events
  - 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; game rentals

Equipment Improvements
- Miscellaneous small equipment replaced as needed; weed whips, blowers, etc.

Support for Special Events & Community Activities
- Youth Opportunities Unlimited (Y.O.U)
  - 4 projects in the City of Kalamazoo
• Bronco Bash
• Homecoming
• Campus Classic 5K Run
• Athletic Events
  o CommUniverCity Night
  o Home Football Games (5)
  o 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

• 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

Combined Professional Memberships and Affiliations of Various LS Staff and Employees
• Association of Physical Plant Administrators (APPA)
• Kalamazoo Valley Landscape & Nursery Association (KVLNA)
• International Society of Arboriculture (ISA)
• Arboriculture Society of Michigan (ASM)
• Michigan Forestry & Park Association (MFPA)
• Society of Municipal Arborists
• Michigan Turfgrass Foundation (MTF)
• Michigan Nursery & Landscape Association (MNLA)
• Professional Grounds Management Society (PGMS)
• National Arbor Day Foundation
• American Association of Botanical Gardens & Arboreta (AABGA)
• Wildflower Association of Michigan
• Master Gardener Guild
• Sports Turf Management Association
• Michigan Sports Turf Management Association (MISTMA)
• PLANET
• M-Tech Staff Education Program
• Osier Lifelong Learning
**Departmental Recognitions**
- Professional Grounds Management Society (PGMS) 4 Star Accreditation: Recertified in April
- Renewal of our status as a "TreeCampus USA" through the National Arbor Day Foundation for the seventh consecutive year
- Several news articles published for FM Newsletter

**Staff**

**Numbers**
- 50 AFSCME FTE's
- 1 Director
- 2 Managers
- 4 Supervisors
- 1 Clerical

The Above Staff Include:
- 6 Certified Arborists
- 3 Certified Tree Risk Assessors
- 1 Horticulturist
- 10 Master Gardeners
- 34 Certified Pesticide Applicators
- 17 CDL Operators
- 1 Storm Water Management Operator
- 2 Mechanics

**Employee Safety Programs**
- Monthly Union Management Safety Committee meetings
- Monthly Safety First meetings
- CIRP/EOC Committee; monthly meetings
- Audiograms and Hearing Conservation Classes
- Pesticide Applicator re-certifications
- DOT Physicals for CDL and Chauffeur license holders
- Random drug and alcohol testing for CDL license holders
- Tornado safety
- Equipment training
- Respirator fit testing
- PPE (Personal Protective Equipment) through ESEM
- WMU Wellness Program
- CPR training
- Blood-borne pathogen training for CPR certified employees
- Active Shooter on Campus program through DPS and ESEM

**Conferences and Seminars**
- Edward Lowe Foundation, 2nd Tier “intrapranural”, Strategic Coherence
  - Purpose, Core Values, Missions, Annual Objectives, Tactical Actions
- MiAppa Conference
- APPA Conference
- Great Lakes Trade Exposition in Grand Rapids
- Wildland Fire Training

**Landscape Statistics**

**Athletics:**
- 3.19 acres of tennis hard court surface
- 2 acres of artificial turf at Waldo Stadium
- 16.89 acres of grass on varsity athletic fields
- 1.14 acres of stone dust on varsity athletic fields
- 13.48 acres grass on intramural fields
- .74 acres stone dust on intramural fields
- 1.85 acres of running track surface

**Campus Wide:**
- 745 intensely maintained acres with another 789+ outlying area acres
- 131 woodlot acres
• 196.7 mowable acres
  o 128.1 acres on Main Campus
  o 42.8 acres on Oakland Drive Campus
  o 25.8 acres at CEAS/BTR
• 94 acres of turf is currently under automatic irrigation
• 26.5 lane miles of roads
• 120+ acres of parking lots
• 39 miles of sidewalks
• 200,000 square feet of steps, ramps, and entry surfaces
• 675 building entryways
• 1,408 tons of solid waste/trash disposed of at the landfill
• 200 cubic yards of yard waste was recycled
• 540 cubic yards of pallet lumber was recycled
• 200 cubic yards of concrete was recycled
• 2,240 cubic yards of shredded bark
• 145 cubic yards of topsoil/garden soil
• 58,000 square feet of existing perennial beds
• 6,000 square feet of annual flower beds
• over 6,500 trees have been inventoried
• 190 large annual flower planters
• Seven flower trees
• 334 benches
  o Plexus flat seat - 50
  o Plexus w/back - 242
  o Miscellaneous - 42
• 126 bike racks
  o A-Frame - 97
  o Loop - 27
  o Ribbon - 2
• 183 tables w/73 umbrellas
  o Carousel - 92
  o Picnic - 77
  o Pedestal - 28
• Nine Kiosks
• Eight miles of chain link fence
• 701 Trash Containers
  o 5 yard dumpsters - 141
  o Plexus baskets - 168
  o Recycling clusters - 33
• 18 Flag poles

**Goals Achieved in 2016**

We continued to enhance the FM WeCare programs by providing opportunities in professional development and education. The third graduating class of the M-Tech Gardener training program completed 240 hours of education.

**Future Goals**

• Customer Service
• Keep campus clean & safe
• Snow Removal enhancement
• Community Outreach
• Tree Campus USA
• Enhance color displays