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Landcare Service Level Standards:

Grounds maintenance services will be delivered according to designated Service Type and Service Intensity, as explained below and illustrated on the following maps. When responding to emergencies, the resources needed to achieve these service levels will be redirected, and service may be delayed. As a result of seasonal changes and weather conditions some service levels may not immediately be attainable.

Service Types:

FORMAL - Maintenance practices reinforce deliberate, pre-planned, human-imposed order. For example, shrubs are sheared to specified shape and height. Formally maintained areas display legible patterns, rhythms, and organization.

INFORMAL - Maintenance practices reflect cultural values of cleanliness, safety, security, aesthetics, etc., but do not impose unnatural forms on plantings. For example, lawns are mowed regularly, but tree placement appears random and shrub pruning is concentrated on establishing strong, healthy plant structure as opposed to pre-determined geometric form. Informally maintained areas have a park-like quality that belies the planning and design inherent in their construction.

NATURALISTIC - Maintenance practices are targeted to showcase the natural beauty of site features and vegetation and to encourage ecosystem services, but are sufficient to address safety, security, and cleanliness. Intensive establishment procedures may be applied to naturalistic plantings, sometimes spanning the first several years after planting.

Service Intensities:

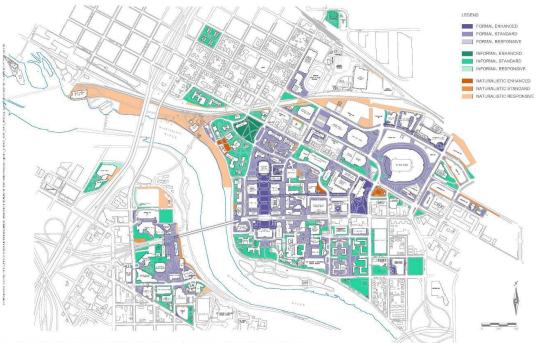
ENHANCED - Maintenance activities are performed more frequently based on site exposure, prominence or historic relevance. Maintenance frequencies may be increased in response to customer requests at additional cost.

STANDARD - Maintenance tasks and frequencies meet University expectations for traditional grounds maintenance service levels.

RESPONSIVE - Maintenance is performed at frequencies necessary to ensure a safe, functional, and clean campus

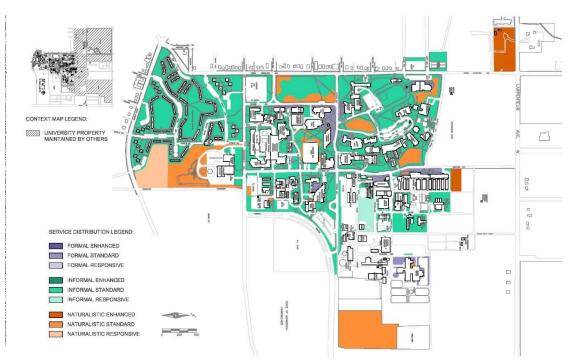


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Standard Intensity maintenance activities are identified below:

LAWNS

- Mow to maintain target height range of 2-1/2" to 3-1/2" (approximately once a week).
- Pick trash prior to mowing.
- Remove excess clippings or blow to separate and distribute once dry.
- Weed whip in coordination w/ mowing.
- Water as needed based on evapotranspiration (ET).
- Apply weed and pest control and fertilizer:
 - Apply in accordance with MN Dept. of Agriculture requirements and weed survey.
 - Post signs when applications occur.
 - Remove any chemicals from paved surfaces immediately.
 - Apply fertilizer based on soil fertility test in two applications Spring and Fall.
 - Apply pre-emergent herbicide for crabgrass early to mid-May to targeted areas.
 - Apply blanket broad-leaf herbicide late April to mid-June to targeted areas.
 - Spot spray broad-leaf weeds in late August.
 - Monitor disease and pest problems and treat based on <u>Integrated Pest</u> <u>Management (IPM).</u>
- Edge walks:
 - Edge in mid-June and mid-August.
 - Remove scraps and blow walks clean.
- Aerate lawns:
 - Aerate twice per season: late April early May; mid-August September.
 - Remove plugs from walks, paved areas.
 - Mark irrigation heads before aerating.
 - Do not aerate during excessively dry periods.
- Seed as needed, generally early May or mid-August through mid-September
- Conduct spring cleanup:
 - Remove or mulch leaves as needed.
 - Remove winter debris/litter.
 - Remove excess sand and gravel from turf
- Conduct fall cleanup:
 - Mulch leaves into turf.
 - Remove excess leaves to landscape material recovery area.

TURF ALTERNATIVES, MEADOWS AND PRAIRIES

- Mow low input turf areas twice per season to remove excess vegetative matter, control weeds and promote growth. Do not mow during hot, dry weather.
- Mow prairie areas every other season as a substitute for burning.



- Refer to site specific natural area management plans for additional maintenance requirements.
- Pick trash as needed and prior to mowing.
- Water only during establishment or drought conditions based on evapotranspiration (ET).
- Monitor disease and pest problems and treat based on Integrated Pest Management (IPM).
- Spot treat or remove invasive or noxious weeds.
- Conduct spring cleanup:
 - Remove or mulch excess leaves.
 - Remove winter debris/litter.
 - Remove excess sand and gravel.
- Conduct fall cleanup:
 - Mulch or remove excess leaves to landscape material recovery area.

TREES

- Conduct corrective pruning according to University of Minnesota Extension publication WW-00628. In addition, prune to meet cultural, environmental and functional needs:
 - Maintain 14' high roadway clearance.
 - Maintain minimum 7' high walkway clearance. Design intent may dictate pruning to provide a higher canopy.
- Monitor trees for disease, insects, structural problems and relative value.
- Apply treatment using integrated pest management (IPM) if conditions warrant. Some treatments will result in additional cost.
- Provide maintenance ring around tree trunk to prevent injury from mowers or weed whips.
 - For trees smaller than 12" DBH, extend ring 18" from trunk.
 - For trees measuring 12" DBH or larger, mulch critical root zone where practical and aesthetically appropriate.
 - Provide weed control when needed in tree rings.
- Water where possible to maintain tree health.
- Remove/replace trees when needed in accordance with campus tree plan.
- Remove stem girdling roots (SGRs) from selected trees.
- Additional cost services:
 - storm damage repair
 - o fertilization/aeration/vertical mulching
 - \circ cabling
 - treatment of disease and insect problems
 - stump removal



SHRUBS

- Conduct plant replacement:
 - Evaluate plants after buds break in spring.
 - Compile and submit replacement list by 4th week of May.
 - Plant replacement shrubs by late June.
- Control weeds:
 - Apply pre-emergent herbicide by end of May.
 - Apply post-emergent herbicide as needed throughout growing season.
 - Hand weed priority areas as needed starting in early June. Repeat as needed throughout growing season.
- Top dress mulch in shrub beds as needed. Take care to avoid excessive mulch accumulation at plants.
- Water where possible according to plant requirements.
- Prune according to University of Minnesota Extension publication WW-00628. In addition, prune:
 - to meet functional requirements (e.g. sightlines, security, screening, etc.)
 - to encourage proper growth habit
 - to maintain plant health
 - based on cultural requirements of species.
 - to maintain specified form *Formal Service type*
 - hedges may require pruning more than once per season.
- Monitor insect and disease problems and treat as necessary based on IPM. Treatment may be an additional charge.
- Re-cut bed edges as needed to accommodate plant growth and to establish an aesthetically pleasing, straight or smoothly curving border.
- Fertilize according to plant requirements. Use organic amendments when indicated and practical.

PERENNIALS

- Conduct plant replacement:
 - Evaluate plants beginning late-May allow adequate time for late season grasses to emerge.
 - Compile and submit replacement list by 3rd week of June.
 - Plant replacement perennials by mid-July.
- Apply pre-emergent herbicide at selected beds in Spring.
 - Native perennial plantings may be excluded in order to promote seed germination.
- Fertilize according to species requirements.
- Water according to plant requirements and ET.
- Deadhead spent blossoms and divide plants as needed.



- Keep plantings weed-free.
- After a killing frost, remove excess organic material to landscape material recovery area.

BULBS

- Design and purchase spring bulbs in time to allow fall planting.
- Amend soil for fertility and drainage.
- After initial year of growth, fertilize according to species requirements.
- Water as needed thoroughly water bulbs immediately after planting.
- Allow bulb foliage to die back in order to encourage long-term bulb vigor and naturalization.
 - Bulbs planted amongst perennials or woody ground covers allow emerging plants to mask dying bulb foliage.

ANNUAL FLOWERS

- Design plantings and order materials during preceding December.
- Purchase materials from pollinator-friendly growers.
- Amend soil for fertility and drainage.
- Time planting to minimize damage from frost.
- Fertilize with liquid fertilizer according to needs of the flower variety.
- Water based on plant requirements and ET.
- Keep plantings weed-free.
- After a killing frost, or as directed, remove excess organic material to landscape material recovery area.
- Additional cost services:
 - At Landcare's discretion, design, install and maintain flower plantings at requested additional locations.

WINTER INTEREST PLANTING MAINTENANCE

- Allow spent foliage of designated plant materials to remain in place throughout winter.
 - Review winter interest planting list.
- Avoid piling or blowing snow on winter interest foliage.
- In late March, cut down dead foliage and remove to landscape material recovery area.

IRRIGATION

Landcare operates a centrally controlled, evapotranspiration (ET) based campus irrigation system. Naturalistic area irrigation will be used primarily during plant establishment or



extreme drought conditions. Therefore, system design for naturalized areas may be simplified from Landcare irrigation design standards.

- Activate systems beginning first week of April.
 - Verify coverage and adjust to correct as needed.
 - Verify that controller, valves and heads are functioning as required.
 - Check for leaks and repair as needed.
- Inspect and maintain systems throughout growing season.
 - Adjust heads.
 - Clean nozzles.
 - Repair as needed.
- Adjust system programs according to gardener or contractor requests and plant ET requirements.
- Winterize systems beginning October 1 completing by November 1.
- Additional cost services:
 - Design irrigation systems to meet Landcare standards.
 - Provide project assistance at additional cost as directed by design team lead.
 - Locate mainlines.
 - Cut and cap lines within excavation limits.
 - Repair damages.
 - Install new systems according to Landcare irrigation design standards.
 - Coordinate water source connection with Energy Management Water/Sewer engineer.
 - Coordinate electrical connection with FM district electrician.
 - Inspect system.
 - Document field changes on as-built diagram.
 - Submit as-built information to design team lead at end of season.

SNOW REMOVAL

Snow removal priorities are based on opening high traffic vehicular and pedestrian ways first, and lower use areas as time allows. Landcare's supervisor on duty (SOD) monitors evolving weather conditions and adjusts snow removal plans to accommodate current and planned campus activities. Snow removal process and service goals are outlined below. Completion times vary by storm type, timing and severity:

- Prep Before storm, when conditions warrant, apply anti-icing brine to high traffic areas, slopes, curves and intersections.
- Open during or immediately after storm event, plow to open priority paths single width minimum.
- Clear Within 12 hours, plow to full width and stage for cleanup.



- Clean Within 24 hours:
 - Broom pavement to remove residual snow.
 - Widen edges for future snow storage, windrow, move designated piles.
 - Detail curb cuts, hydrants, signal buttons, etc.
 - Apply de-icing chemicals at a rate of approximately 1 pound per 300 square feet.

Typical snow depth activation triggers are:

- Standard parking lots 2 inches
- Enhanced parking lots 1 inch: 103 (Bell Museum), 104 (CEC), and C73 (CSC)
- All parking ramp tops 1 inch
- Priority walkways visible snow cover

HARD SURFACE MAINTENANCE

- Clean walks, plazas and loading docks.
 - During winter months, coordinate sweeping with Custodial staff to minimize sand tracked into buildings from walks.
 - In mid-March, remove sand from winter de-icing activities.
 - During growing season, sweep, vacuum or blow walks twice a month.
 - Spray or manually remove weeds as needed early June through September.
 - Pick trash from loading docks on a weekly basis.
- Sweep campus streets.
 - Schedule initial street sweeping for the end of March to coincide with campus spring clean-up.
 - Once a month from March through October conduct sweeping using vacuum sweeper to maximize removal of fine particles.
- Sweep permeable paver surfaces using calibrated vacuum sweeper, to allow designed storm water infiltration rates.

LITTER REMOVAL

- Empty exterior waste & recycling containers as needed based on intensity of use and location.
- Remove all notices from kiosks at the end of each semester.
- Additional cost services:
 - Provide containers as requested and at Landcare's discretion.
 - Service events as requested.
 - Collect and remove litter from parking facilities.

GRAFFITI REMOVAL

• Compile and submit graffiti reports on a weekly basis.



- Receive and log graffiti complaints.
- Coordinate weekly removal (contingent upon weather).
- Remove offensive graffiti immediately.

LANDSCAPE MATERIAL RECOVERY

- Collect and compost herbaceous plant waste for use as soil amendment.
- Collect and process woody plant waste to produce wood mulch.
- When possible, strip and stockpile topsoil from project sites for reuse on campus.
- Additional cost services:
 - Manufacture soil mix to specification.
 - Collect and dispose of organic waste generated by greenhouses/labs.

LANDSCAPE INFRASTRUCTURE MAINTENANCE

- All services provided at additional cost.
 - Seal retaining walls and special pavements
 - Rebuild or repair retaining walls
 - Install or repair fences.
 - Install or maintain fountains.
 - Install, repair, move or store outdoor furniture, including:
 - Benches
 - Tables and chairs
 - Litter receptacles
 - Free standing planters
 - Remove unauthorized cigarette ash urns.
 - Install, maintain or remove lamp post banners and flags.
 - Install, maintain or remove landscape or seasonal lighting.
 - Erect, maintain or remove entrance monuments.

LANDSCAPE ARCHITECTURAL SERVICES

- All services provided at additional cost.
 - Project staging and restoration requests
 - Site and Landscape Design
 - Cost Estimating
 - Project Installation
 - Project Management
 - Commemorative Installations Program