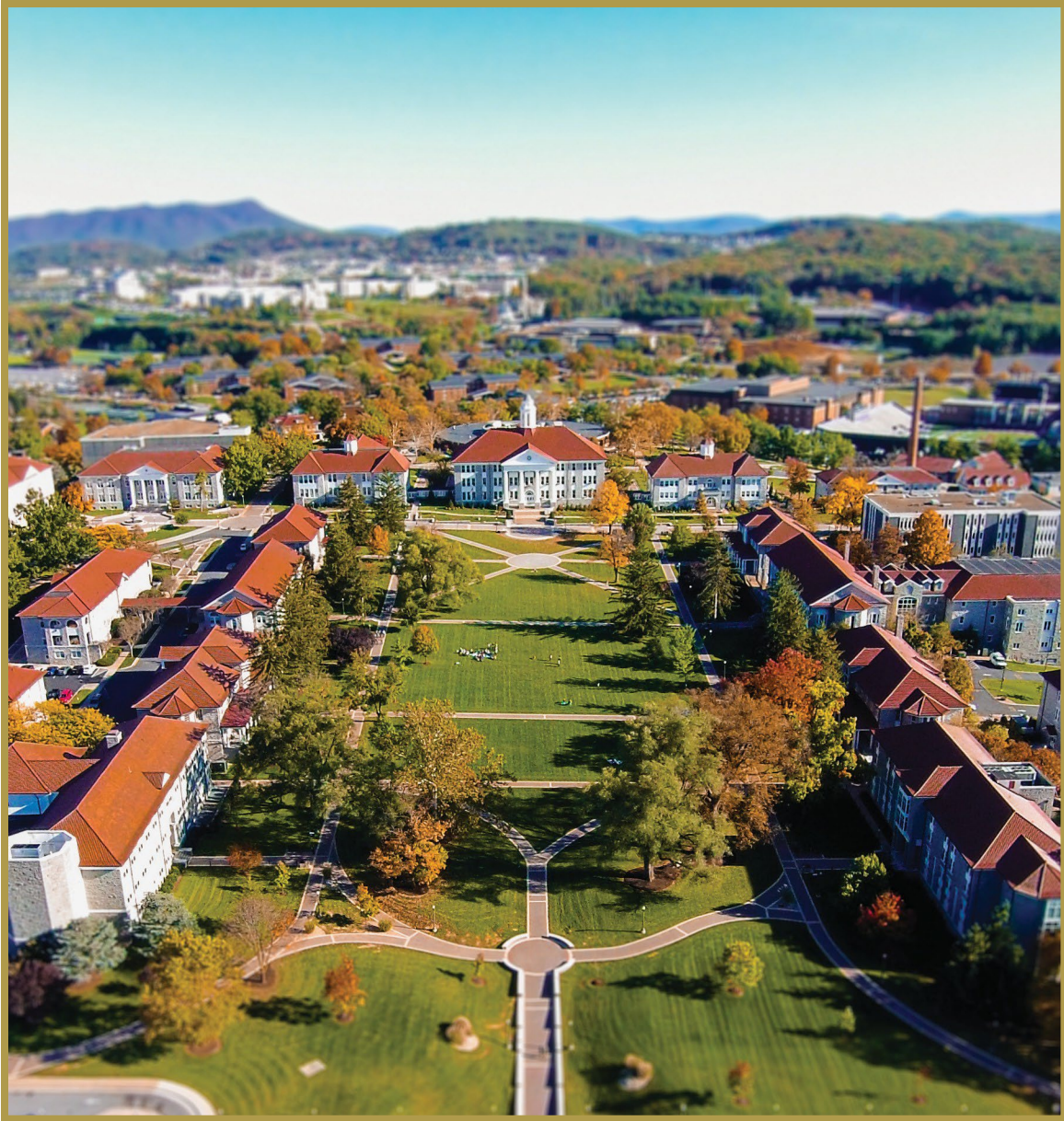

JAMES MADISON UNIVERSITY®

Campus Tree Care Plan



Established
12/1/2017
Updated
12/15/2025

Introduction

Founded in 1908 on farmland, the barrenness of James Madison's campus when it opened resulted in students celebrating Arbor Day in 1910 by inconspicuously planting a variety of trees around campus. Formalized later, Arbor Day was set aside as an event where the senior class would plant a class tree, a tradition which lasted several decades until enough trees had been planted across campus. Later in the 1960's in the midst of a rapidly urbanizing city surrounding campus, a movement started by Professor Dr. Norlyn Bodkin to preserve as much of the natural environment as possible spread across campus and culminated in JMU setting aside an initial allotment of 26 acres of woodlands in 1977.

Now named the Edith J Carrier Arboretum (EJC Arboretum) with over 70 acres of forests and educational facilities, the University's Board of Visitors passed a resolution in 1993 to preserve the Arboretum's urban forest in perpetuity, further cementing the importance of trees to the campus landscape. With these efforts and many others over the 100 years plus since JMU opened its doors, the campus has now become synonymous with its picture-postcard standards of grass and trees covering the historic quad. All the hard work Facilities Management (FM) staff have put into maintaining the campus landscape has even garnered JMU national attention with several publications and websites listing JMU as one of the most beautiful college campuses in the country. This Campus Tree Care Plan formalizes the policies, standards, and procedures currently in practice by staff to ensure campus trees survive and thrive for the next 100 years.

I. Purpose

The purposes of the Campus Tree Care Plan are to:

- Maintain construction and design standards that ensure the long-term success of campus trees.
- Ensure that when tree mortality occurs due to storms, disease, or construction displacement, a replacement program is in place to plant a suitable tree.
- Provide university staff and contractors with the tools and training needed to carry out and enforce the tree care plan.
- Conduct educational programs aimed at building community appreciation and respect for the campus urban forest.

II. Responsibility

The responsibility of the Campus Tree Care Plan lies with JMU's Facilities Management department.

III. Campus Tree Advisory Committee

The tree advisory committee is comprised of university staff, faculty, and a student representative, as well as community partners. The committee meets biannually, or as needed, and member terms are laissez-faire. Committee members are expected to participate and contribute to discussions on policies and guidelines within the campus tree care plan. As of the 2024-2025 academic year, current members of the Campus Tree Advisory Committee include:

- Abe Kaufman, Facilities Engineering & Construction, Sustainability Manager
- Dr. Mikaela Schmitt-Harsh, Interdisciplinary Liberal Studies, Assistant Professor of

Biology

- Jeremy Harold, City of Harrisonburg, Greenspace Manager, Certified Arborist
- Megan Bell, EJC Arboretum, Certified Arborist and Grounds Manager
- Katie Rankin, EJC Arboretum, Director
- Jason Campbell, Facilities Management Landscaping, IPM Supervisor
- Scott Jones, Facilities Management Landscaping, Landscape Manager
- Nate Brown, Facilities Management Engineering and Construction, Sustainability Analyst
- Ali Sloop, Facilities Engineering and Construction, Stormwater Coordinator
- Chelsea Thomas, Facilities Engineering and Construction, Stormwater Specialist
- Elena Finelli, Student Representative

In coordination with the City of Harrisonburg and other departments on campus, the committee will be charged with planning and hosting annual Arbor Day events and service-learning projects in support of the tree care plan's goal to build community appreciation of trees.



Ash tree changing color from green to golden yellow on the Quad outside of Wilson Hall. (JMU Photography)

IV. Definitions

- Caliper:** The diameter or thickness of the main stem of a young tree or sapling as measured at six (6") inches above ground level. This measurement is used for nursery grown trees having a diameter of four inches or less.
- Canopy Trees:** A tree that will grow to a mature height of at least 40 feet with a spread of at

least 30 feet.

- c) **The Certificate of Occupancy:** The final construction document issued by the Commonwealth of Virginia's Bureau of Capital Outlay Management (BCOM) to authorize occupancy of a structure upon completion of all building issues.
- d) **Emergency Operations Plan:** A plan in Facilities Management which assigns priority areas for treatment and establishes procedures for communication, organization, and operations during an inclement weather event.
- e) **Integrated Pest Management (IPM) Plan:** Facilities Management's plan to manage pests (plants, fungi, insects and/or animals) in a way that protects human health and the surrounding environment and that improves economic returns through the most effective, least-risk option.
- f) **ISA:** International Society of Arboriculture.
- g) **Site Plan:** An architectural plan, landscape architecture document, and a detailed engineering drawing of proposed improvements to a campus project site.
- h) **Tree protection area:** The area surrounding a preserved or planted tree that is essential to the tree's health and survival and is protected within the guidelines of these regulations.

V. Tree Care Policies

Staff Training:

All tree care shall be provided or supervised by JMU's team of tree specialists. The team is composed of supervisory staff and zone environmentalists from the Landscaping and Grounds Department. Each JMU tree specialist is responsible for monitoring and performing tree care on campus, collaborating with contractors for hazardous tree removal and other specialized tree care and training staff underneath them on proper tree care according to these policies. Any contractors hired to supplement facilities staff shall provide at least one ISA Certified Arborist on any crew conducting tree care or tree removal operations on campus.

Plant Selection:

JMU does not maintain a list of approved tree species but selects trees based on the following design criteria detailed in Facilities Management's Design and Construction Guidelines:

1. *Size:*
 - a) *No tree smaller than 1.25" caliper shall be specified.*
2. *Plants to Avoid:*
 - a) *Plants unduly prone to disease (e.g. Birch, Elm, Ash, etc.).*
 - b) *Plants particularly active in fruit, pollen or leaf fall*
 - c) *Plants known to have particularly brittle structures (e.g. Bradford pears, etc.).*
 - d) *Plants that are known to be invasive.*
3. *Location:*
 - a) *Plants shall not block or cover building windows, security lighting, site lighting or access to any utilities.*
 - b) *Plantings and other landscape features shall consider the maximum expected canopy and be designed not to extend within 5' of any exterior building walls.*
 - c) *Tree canopies that project into accessible sidewalks and other designated egress path*

areas shall have no limbs which would impede accessibility.

- d) Near underground utilities, building foundations and lawn areas, avoid plants with an invasive root system.*
- e) Plantings adjacent to curb cuts at the entrance or exit of roadways, parking lots and pedestrian areas, shall be designed to provide clear visibility for persons leaving or entering the vehicular way.*

Tree Planting

Site Preparation:

The planting hole should be dug no deeper than the root ball when measured from the bottom of the root ball to the trunk flare. If the hole is deeper than the root ball, it often results in the settling of the plant above the trunk flare and structure roots which can result in the root ball being planted too deep. **But the width of the hole should be at least 2 to 3 times the diameter of the root ball with sloping sides.** Once the planting hole is ready, trees should not be planted with grow bags, plastic pots or any other root encasing devices.

Backfilling:

Plants must be set with trunk flare 1-2" above the existing grade. Once the plant is properly placed, all visible ropes and burlaps at the top one-third should be cut away. The top 8"16" of the wire basket should be removed once the root ball is stable in the planting hole; backfill the planting hole with the existing soil. If the existing soil is of a poor quality (i.e. rocky), some topsoil is added as a supplement as needed. The backfill soil should be tamped firm enough to remove large air pockets, but not too firm as to remove all fine air spaces needed for a well aerated soil for root development. **Complete the backfill by making sure that the trunk flare is completely exposed, spread mulch at 24" depth but not touching the trunk, water the root ball and the planting area deeply.**

Watering:

New trees planted by JMU receive supplemental irrigation for one growing season via hand watering or tree-watering bags (e.g., tree gator) unless installed in areas irrigated by FM's irrigation system. If a tree is installed by a contractor, the contractor shall be fully responsible for the establishment, protection, watering, and growth. **Plants shall be fully guaranteed for one full year beyond the issuance of the Certificate of Occupancy.** Replacement of failed plantings shall take place by the contractor within two (2) weeks of notification. Tree-watering bags should be removed after one growing season.

Insert below from Facilities Management's Design and Construction Guidelines:

Water and Energy Conservation:

- a) The designer shall consider landscape design concepts that incorporate water and energy conservation methods. Include appropriate provisions for irrigation equipment, the selection of drought-resistant plantings and the design of adequate lawn and other maintenance intensive areas.*

Staking:

Unless necessary, trees should not be staked. Trees that are top heavy or on an exposed site or where people may push them over should be staked to anchor their root balls so the

roots can develop rapidly into surrounding sod. New trees that are planted on steep slopes or areas with frequent strong winds may require staking. Any staking should be done during the planting operation and be maintained throughout the first year of growth. **After the first year, the stakes should be removed, or they will inhibit trunk development.**

Stakes should be of seasoned hard wood, oak preferred, and show no sign of cracking or decay. Stakes should be cut even so they are the same height. All trees to be staked, should be supported by two stakes, they should be five feet long; the diameter at the middle should not be less than two inches. Place stakes on the outside of the root ball, drive them 30 inches into the ground, and fasten to the tree with a suitable length of $\frac{3}{4}$ " wide, flat, woven polypropylene material (arbor tie). Unless otherwise directed, trees should be staked as shown on the plans and in accordance with these specifications. Stakes should be set parallel to curbs. Trees should stand plumb after staking. At the time the stakes are removed any holes left by the stake shall be filled. Stakes should be removed after one growing season.

Tree Maintenance

Mulching:

Proper mulching will moderate soil temperature and moisture, suppress weeds, prevent mower damage, and encourage beneficial microbial development. **It is important to prevent piling of mulch against the trunk of the tree as this becomes a vector for pathogens as well as stem-girdling roots.** The "root flare" at the base of the trunk

should be visible above the mulch line. Individual trees and beds should be no deeper than three inches in depth of mulch. Where possible, mulch should be placed to the tree's canopy edge without digging an edge (the dug edge cuts absorbing roots and damages the root system). **Edging with machinery should not occur within the drip line of the tree canopy – this will damage the tree's structural and feeder roots and could kill the tree.**

Fertilization:

There is no routine fertilization of trees unless prescribed for a specific tree by a JMU tree specialist when severe nutrient or other soil deficiencies are diagnosed. Most trees on campus receive adequate nutrients resulting from full lawn fertilization.

Pest and Disease Treatment:

JMU's tree specialists regularly assess all trees on campus and treatment for pests and disease is

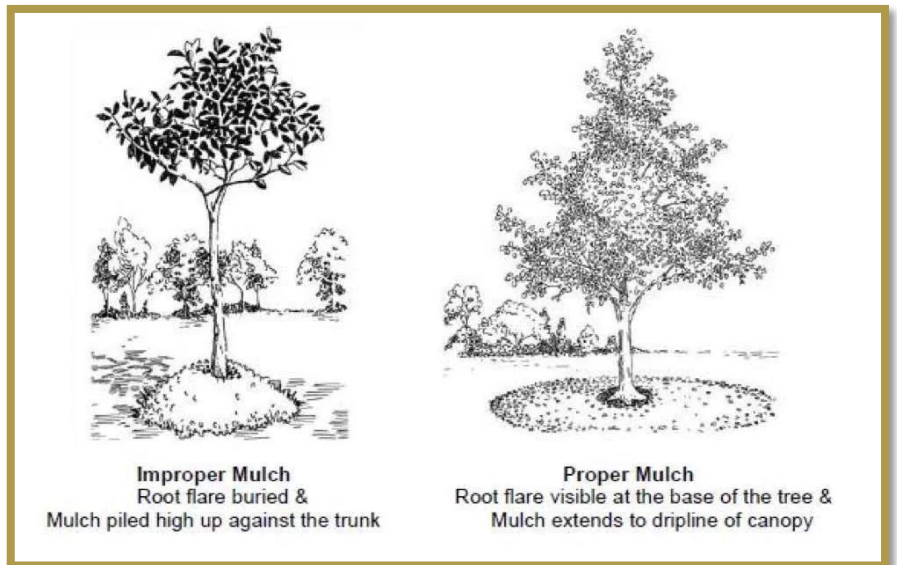


Figure 1. Improper versus proper mulching for trees. (Photo: Treefolks.org)

prescribed as needed. A range of diseases have been observed on campus and maintenance programs have been established to treat the most common diseases, including the elm and ash trees for Dutch Elm Disease (DED) and Emerald Ash Borer (EAB). Tree pests and diseases, such as EAB and DED, should be treated by a certified arborist with pesticide and fungicide applicator certifications. Other pests are treated in accordance with Facilities Management’s Integrated Pest Management (IPM) program.

Pruning:

Pruning is currently conducted systematically when all campus trees are surveyed and rated for their pruning needs or when a service request comes from the campus community through AiM, JMU’s enterprise maintenance management system. In all cases, pruning needs are evaluated by staff tree specialists. **Pruning will not be done without a clear objective and shall consider safety of property and life as well as the tree’s health.** Once GIS functionality is established for the campus tree inventory, any pruning recommendations or work completed shall be tracked and updated.

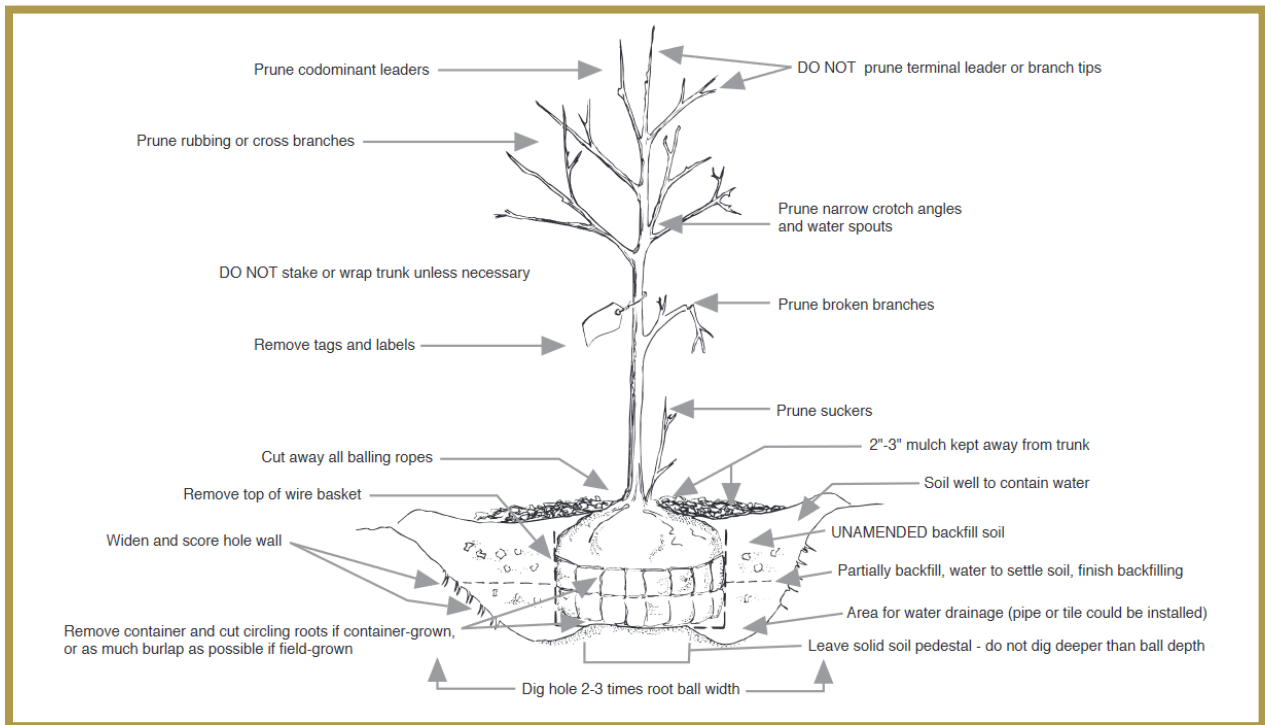


Figure 2. Diagram with common tree and planting practices (Virginia Cooperative Extension)

Storm Response and Recovery:

In the event severe weather conditions such as hurricanes or snowstorms result in the observation or report of broken limbs or fallen trees, the Landscape Manager will be notified and will send a staff tree specialist to conduct an assessment on the ground. If damage is widespread and affecting campus operations, the Landscape Manager will abide by FM’s Emergency Operations Plan dictating priority areas for response. A “Snow Map” is available on the FM website showing the locations of fire lanes, ADA entrances, dining locations, and other priority areas. In the advance of anticipated weather conditions, all necessary equipment and personal protective equipment (PPE) shall be checked, and readiness verified.

VI. Protection and Preservation Policies

General Policies:

All projects which may impact trees must be reviewed and approved by the Landscape Manager in Facilities Management. Once site plans are approved, FM's Landscaping Department reserves the right to contract any or all of the required landscaping. If work is contracted outside, the contractor is responsible for protecting the campus landscape before, during, and after construction. If a contractor's construction activities result in damage to trees, the company will be held responsible for any mitigation and if necessary, contractors shall pay for tree asset appraisal, replacement, and soil compassion remediation expenses, if there is any incursion into tree protection zones and/or visible damage to the above portion of a tree or trees.

Mitigation Policies:

On a construction site, guidelines have been developed based on ISA Best Management Practices to protect existing trees. Before any equipment arrives on site, contractors shall install tree protection fencing around all existing trees noted in the approved landscaping plan in order to create a tree protection area around the critical root zone. **Fencing shall be installed and maintained at a distance from the trunk equal to 1.5-feet per each inch of trunk diameter as measured at 4.5-feet above grade (DBH) or 10-feet, whichever is greater.** For example, a tree with a 12-inch trunk diameter shall be fenced 18-feet from the trunk. **Fence shall be maintained for the duration of the project and no storage, stockpiling or vehicle parking shall occur at any time within the tree protection fencing. If tree roots are encountered outside of the tree protection area during construction, the JMU Project Manager (PM) must be notified, and a staff tree specialist dispatched to assess the best methods of protecting the tree.**

Transplanting:

If an approved site plan will impact desirable trees located where development is planned and a tree specialist determines construction mitigation is not possible, the first aim will be to transplant the tree to another acceptable location on campus. The FM Landscaping Department has a greenhouse to hold a tree for a day or two until a suitable location is found. If a tree has been transplanted, the campus tree inventory will be updated to reflect the new location.

Tree Removal and Mitigation:

Tree removal requests must be reviewed by the Landscape Manager or staff tree specialist and generally only occur when the tree has the potential to become a hazard to property/life or cannot be saved due to construction activities on campus. If a tree on campus must be removed to accommodate development, renovations, and other work and cannot be transplanted, another tree will be planted on campus, preferably in a one-to-one replacement program. Removal of trees should be completed by a certified arborist and shall conform to ANSI Z133 and ANSI A300 arboriculture safety standards.

Efforts should be made during the design phase of projects to preserve and protect

existing trees on campus prior to finalizing plans and the start of construction. The identification of all trees that may be impacted (above and below ground) by construction equipment, cut and fill activities, utility corridors, proposed walkways and roads, and potential staging areas.

VII. Tree Damage Assessment

In the event a tree is damaged, the project manager will notify the Landscape Manager and a staff tree specialist or certified arborist will be dispatched to assess the tree's condition. The arborist or specialist evaluation will determine whether a violation of policy has occurred and what treatment should be prescribed. The cost of the treatment or suitable replacement if the tree is too damaged to survive will be assessed to responsible party. The costs for tree asset appraisal, replacement, and soil compassion remediation expenses are examples of what may need to be completed when a tree is damaged. **If a contractor installed trees which failed within one full year beyond the issuance of the Certificate of Occupancy, the contractor shall replace trees within two (2) weeks of notification.**

VIII. Prohibited Practices

No commemorative tree shall be removed or planted on campus for dedication without pre-approval of the Senior Vice President of Administration and Finance.

With the EJC Arboretum set aside as a public park, the following State of Virginia statute protects against the destruction of trees, shrubs, etc.

§ 18.2-140: "It shall be unlawful for any person to pick, pull, pull up, tear, tear up, dig, dig up, cut, break, injure, burn or destroy, in whole or in part, any tree, shrub, vine, plant, flower or turf found, growing or



EJC Arboretum woods in fall color surrounding the pond. (JMU Photography)

being upon the land of another, or upon any land reserved, set aside or maintained by the Commonwealth as a public park, or as a refuge or sanctuary for wild animals, birds or fish, or upon any land reserved, set aside or maintained as a public park by a park authority created under the provisions of § 15.2-5702, without having previously obtained the permission in writing of such other or his agent or of the superintendent or custodian of such park, refuge or sanctuary so to do, unless the

same be done under the personal direction of such owner, his agent, tenant or lessee or superintendent or custodian of such park, refuge or sanctuary. Any person violating this section shall be guilty of a Class 3 misdemeanor; provided, however, that the approval of the owner, his agent, tenant or lessee, or the superintendent or custodian of such park or sanctuary afterwards given in writing or in open court shall be a bar to further prosecution or suit.”

IX. Goals and Targets

1. Continue to partner with GIS staff, Landscape staff, JMU students and faculty, and community volunteers to update the current campus tree inventory map and database. Continue efforts to map the EJC Arboretum’s forest.
2. Provide university staff and contractors with the tools and training needed to carry out the tree care plan and update sections related to tree planting and tree care in the JMU Design and Construction Guidelines as needed.
3. Partner with the City of Harrisonburg and other departments on campus (EJC Arboretum, Institute for Stewardship of the Natural World, Community Engagement and Volunteer Center, etc) on service-learning projects and education programs on trees in support of the Tree Care Plan’s purpose of building community appreciation and respect for the campus urban forest.

X. Campus Tree Inventory

In the summer of 2017, the Landscaping Department inventoried all trees on campus and developed a spreadsheet showing a tree’s picture, location, condition, whether any pests or disease were found, and what treatment were prescribed by a staff tree specialist (pruning, pest treatment, etc). In total, 7,244 trees were inventoried on campus, excluding those trees in the EJC Arboretum and JMU Farm properties.

In the next phase of the inventory, JMU staff were outfitted in 2020 with mobile tablets with the FieldMaps for ArcGIS app, allowing staff to immediately update a tree’s records including moving a tree transplanted, to marking a tree in need of treatment. All trees will be geolocated using the ArcGIS Collector app. Additional information for each tree will be collected such as: height, DBH (diameter at base height), condition, structure, health, maintenance recommendations, species name, and more. As of August 2023, approximately 9,100 trees have been geolocated and about two-thirds of those have been identified by species. JMU staff have completed the main campus tree inventory. In 2023, efforts to map the arboretum’s trees into the tree inventory began, there are around 2,000 trees greater than six inches in diameter that have been entered into the online tree inventory map, as well as trees of any size within garden spaces, tagged as commemorative, or with educational ID tags at the arboretum.

The campus tree inventory is updated continually by stormwater student interns as the Landscaping department removes, replaces, and plants new trees across campus. The effort to continue mapping the arboretum’s urban forest will be ongoing until all the trees greater than

6 inches have been documented. Arboretum arborists and grounds staff will update the tree inventory if trees need to be removed within the arboretum's boundaries.

XI. Communication Strategy

Upon official adoption of the Campus Tree Care Plan by the Campus Tree Advisory Committee and JMU administration, the plan will be posted on the JMU FM website alongside the JMU Facilities Management Design and Construction Guidelines. The Landscaping Manager will work closely with project managers to provide training and enforce JMU's tree care and protection standards. Future updates to this plan will be reflected in JMU's Facilities Management Design and Construction Guidelines.



A gingko and maple tree on the Quad on a foggy morning with Wilson Hall in the background. (JMU Photography)

**Please visit the [Campus Tree Inventory Map](#) online to see our current campus trees.

*For any questions about the University's Campus Tree Care Plan, please contact stormwater@jmu.edu.