



OFFICE OF INSPECTOR GENERAL

FEBRUARY 4, 2021

Evaluation of the Architect of the Capitol's Tree Maintenance Program

Evaluation Report 2020-0003-IE-P

MISSION

The OIG promotes efficiency and effectiveness to deter and prevent fraud, waste and mismanagement in AOC operations and programs. Through value added, transparent and independent audits, evaluations and investigations, we strive to positively affect the AOC and benefit the taxpayer while keeping the AOC and Congress fully informed.

VISION

The OIG is a high-performing team, promoting positive change and striving for continuous improvement in AOC management and operations. We foster an environment that inspires AOC workforce trust and confidence in our work.



Results in Brief

Evaluation of the Architect of the Capitol's Tree Maintenance Program

February 4, 2021

Objectives

On April 18, 2017, a Capitol Grounds and Arboretum (CGA) Maintenance Division employee was killed by a falling tree limb while performing work for the Architect of the Capitol (AOC). In response to this incident, the Office of Congressional Workplace Rights (OCWR) conducted an investigation into the AOC's urban tree management practices. Their investigation draft report contained two findings of violations of the General Duty clause of the Occupational Safety and Health Act (OSHA), one for specific trees posing an imminent danger and one based on deficiencies in the AOC's tree management practices. Our objective for this evaluation was to determine if the OCWR-directed improvements to AOC processes for tree inspection and safety-related issues were appropriately implemented and maintained, and if they effectively addressed safety hazards from trees located on the U.S. Capitol campus. Given the relevance, we also performed a limited-scope review into how the novel coronavirus (COVID-19) pandemic has impacted the CGA's tree maintenance efforts.

Findings

Based on our evaluation, we found that the AOC had appropriately implemented and maintained improvements directed by the OCWR. We also found that the CGA is continuing to make significant improvements to its tree management practices as a result of AOC's new Strategic Plan initiative and recent organizational transformation changes. Lastly, we found that the CGA's response to the COVID-19 pandemic was proactive and effective. Our report recommends one area for

improvement, as follows:

- We found that the CGA had no formal tracking system for training in conjunction with individualized training requirements, and supervisors were not tracking staff training events required to maintain professional certifications.

Recommendation

We recommend that:

- The CGA implement a formalized training tracking system, with consideration given to the AOC Training Department initiatives planned or currently in place. This system should be regularly reviewed by Supervisors to ensure employees appropriately maintain their professional certifications and as a tool for individualized career development planning.

Management Comments

We requested that the AOC provide comments in response to this report.

The AOC provided comments on January 27, 2021, see Appendix B. The AOC management agrees with our overall assessment that OCWR-directed improvements to their tree maintenance practices were appropriately implemented and maintained, and that they continued to make significant improvements to these practices. The AOC management concurred with our recommendation to track training for maintaining professional certifications.

Please see the Recommendations Table following this page.



INSPECTOR GENERAL

Recommendations Table

Responsible Entity	Recommendation Resolved	Recommendation Unresolved	Recommendations Closed
CGA	1		

Note: The following categories are used to describe agency management's comments to individual recommendations.

- **Unresolved** - Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **Resolved** - Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **Closed** – The OIG verified that the agreed upon corrective actions were implemented.



INSPECTOR GENERAL

DATE: February 4, 2021

TO: J. Brett Blanton
Architect of the Capitol

FROM: Christopher P. Failla, CIG *C. Failla*
Inspector General

SUBJECT: Evaluation of the Architect of the Capitol's (AOC's) Tree
Maintenance Program (Project No. 2020-0003-IE-P)

Please see the attached final report for our evaluation of the AOC's Tree Maintenance Program, which was announced on June 30, 2020. We found that the AOC appropriately implemented and maintained improvements directed by the Office of Congressional Workplace Rights and that the AOC is continuing to make significant improvements to its tree management practices. This report includes one recommendation for improvement to the AOC's tree maintenance program.

In your response to our official draft report (Appendix B), you concurred with our recommendation. Based on your response, we feel the proposed corrective action addresses our recommendation. However, the status of the recommendation will remain open until final corrective action is taken. We will contact you within 90 days to follow-up on the progress of your proposed management decisions.

We appreciate the courtesies extended to the staff during this evaluation. Please direct questions to Evaluator Audrey Cree at 202.631.2682 or ACree@aoc.gov, or Assistant Inspector General for Inspections and Evaluations Josh Rowell at 202.593.1949 or Joshua.Rowell@aoc.gov.

Distribution List:

James Kaufmann, Director, Capitol Grounds and Arboretum
Antonio Edmonds, Acting Chief of Operations
William O'Donnell, Chief Administrative Officer
Jason Baltimore, General Counsel
Peter Bahm, Chief of Staff
Mary Jean Pajak, Senior Advisor



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Introduction

Objective

The objective of this evaluation was to determine if improvements directed by the Office of Congressional Workplace Rights¹ (OCWR) to Architect of the Capitol (AOC) processes for tree inspection and safety-related issues were appropriately implemented and maintained, and if they effectively addressed safety hazards from trees located on the U.S. Capitol campus. We also performed a limited-scope review into how the COVID-19 pandemic has impacted Capitol Grounds and Arboretum's (referred to as "CGA" in its internal documents) tree maintenance efforts.

Background

The CGA is responsible for preserving and maintaining more than 280 acres of historic landscape and infrastructure across the U.S. Capitol campus.² This jurisdiction performs landscape maintenance; designs and installs seasonal horticultural display beds; implements comprehensive arboricultural programs; and maintains and improves the supporting infrastructure, vehicles and equipment. Snow removal, trash collection, recycling and support for major events, such as the annual Christmas Tree Lighting Ceremony, Memorial Day and Capitol Fourth Concerts are also the responsibility of this jurisdiction.

Tree maintenance and inspection on the Capitol campus is performed by a subdivision of the CGA's Gardening Division, the Tree Branch. This branch is comprised of eight employees (an Arborist Supervisor, one Arborist Leader, four Arborists and two Arborist Workers) who are responsible for the approximately 890 trees surrounding the immediate U.S. Capitol Building on Capitol Square, and more than 4,300 trees throughout the entire 274-acre Capitol grounds.

On April 18, 2017, a CGA Maintenance Division employee was killed by a falling tree limb while performing work for the AOC. That same day, in response to this accident, the OCWR began an investigation into the AOC's urban tree management practices, and issued their report of investigation on May 18, 2018.³ This report contained two findings of violations of the General Duty clause of the OSHA, one for specific trees posing an imminent danger and one based on deficiencies in the AOC's tree management practices.

The U.S. Department of Labor's OSHA of 1970 Section 5, Duties, General Duty clause states:

- (a) Each employer –

¹ The Office of Congressional Workplace Rights was formally known as the Office of Compliance (OOC). It was renamed on December 21, 2018, and for the sake of clarity will be referred to as such in this evaluation.

² The grounds were designed by Frederick Law Olmsted (1822-1903), who planned the expansion and landscaping of the area that was performed from 1874 to 1892. (Retrieved December 8, 2020, from <https://www.aoc.gov/explore-capitol-campus/buildings-grounds/capitol-building/capitol-grounds>).

³ Office of Congressional Workplace Rights. (May 18, 2018). *Report OSH 2017-02*.

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
 - (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.⁴

The OCWR's report included several recommendations for improving the efficiency and thoroughness of the AOC's tree inspection and removal processes, as well as status updates from the AOC on actions in process, including changes to policies and practices implemented during the investigation period. On January 24, 2019, the OCWR issued an investigation closure memorandum, which included the report findings and recommendations and additional status updates from the AOC. Those findings, recommendations and updates are as follows (OCWR, 2019, pp. 2-4).

Finding OSH 2017-02-1 – Trees Posing Imminent Danger

Finding. The OOC's contract arborist, Mr. Dieruf, identified five high-risk trees during his initial inspection that required immediate removal. Additionally, because the AOC lacked a comprehensive tree inventory, it was unknown at the outset of the investigation whether other trees on the campus posed a similar risk of failure. Based on these factors, the OOC found a violation of the OSHAct's General Duty Clause.

Action Required. The AOC was required to remove the five trees identified by Mr. Dieruf and conduct a thorough risk assessment of the other trees within its jurisdiction.

Action Taken. The five trees identified by Mr. Dieruf were removed. CG [Capitol Grounds] personnel conducted Level 1 and Level 2 assessments of all campus trees, including those within the AOC's jurisdiction outside of Capitol Hill, and contractor Davey Tree performed a Level 3 risk assessment. Over the past year CG has periodically removed or otherwise mitigated campus trees as needed, and has developed a comprehensive online tree inventory that enables its arborists to document, update, and share information regarding the conditions of individual trees. The online TreeKeeper® 8 system facilitates discussions and decisions regarding tree removal or other mitigation of hazards as they are identified.⁵

Finding OSH 2017-02-2 – Tree Management

Finding. The OOC determined that the AOC's tree management practices as of the spring of 2017 constituted a violation of the OSHAct's General Duty Clause. Factors including an incomplete tree inventory, failure to conduct regular tree risk assessments, insufficient resources, inadequate documentation, high risk tolerance, and inefficient processes for removing or otherwise mitigating high-risk trees all

⁴ See 29 U.S.C. § 654. Duties Of Employers And Employees

⁵ [Treekeeper®](https://www.davey.com/commercial-landscape-services/resources-from-the-field-plus-industry-news/treekeeper-tree-inventory-software/), is a web-based tool developed by Davey Tree Expert Company that provides for electronic landscape inventory. <https://www.davey.com/commercial-landscape-services/resources-from-the-field-plus-industry-news/treekeeper-tree-inventory-software/>

contributed to the creation of a recognized hazard of falling trees or limbs, which were likely to cause death or serious physical harm to covered employees and others.

Actions Required and Actions Taken. The Report required the AOC to take a variety of steps in order to implement a regular system of tree assessment, care, and maintenance. Those steps were grouped into five action items, as follows:

Action Item 2A – Tree Removal Policy

Action Required – The AOC was required to implement a written, standardized policy for expediting the removal of trees once they are identified as requiring removal, including final approval authority from within the CG jurisdiction.

Action Taken – The AOC has implemented a Tree Removal Notification Standard Operating Procedure that expedites the removal of trees once they are identified as requiring removal and gives CG the authority to make the final determination regarding removal.

Action Item 2B – Risk Tolerance

Action Required – The AOC was required to lower its risk tolerance by developing and implementing a policy for promptly activating a tree crew when a high risk is discovered, to identify the strike zone, mitigate the risk, and cordon off the strike zone when feasible. Such mitigation efforts must be given priority over other tree care responsibilities.

Action Taken – In May 2018 the AOC adopted a Tree Risk Tolerance Levels Standard Operating Procedure that requires “extreme-risk” trees to be mitigated as soon as possible and “high-risk” trees to be mitigated as soon as practical. For both extreme-risk and high-risk trees, the SOP requires that “The impact zone shall be immediately secured and remain secured until the mitigation is complete.” The SOP states that “Securing of impact zones and mitigation of extreme and high-risk trees shall take priority over other arboriculture work.” The SOP also calls for evaluations to be performed at least annually of all mitigation measures that have been put in place for any extreme-risk or high-risk trees that have not been removed.

Action Item 2C – Tree Inventory

Action Required – The AOC was required to complete a tree inventory including all trees within the CG’s jurisdiction, to be accessible electronically by all CG tree care personnel and to include certain specified types of information.

Action Taken – The AOC is currently using Davey TreeKeeper® 8 database software to maintain an inventory of all trees within its jurisdiction. This system allows for numerous categories of information to be stored and updated with respect to each individual tree, including the characteristics and condition of the tree and the history of work that has been performed on the tree. The database can be accessed in the field using a tablet. The system also allows CG staff to generate a variety of reports, and to schedule and communicate work orders. Although the inventory is not currently integrated with the AOC’s GIS system, there is a plan to transfer the data in the future to allow such integration; in the meantime, the

TreeKeeper® database includes location information and a satellite map pinpointing the location of each individual tree. CG is planning to conduct a complete Level 2 re-inventory of all trees within its jurisdiction in 2019.

Action Item 2D – Tree Disturbance Standard for Construction

Action Required – The AOC was required to develop and implement a tree disturbance standard for preventing, assessing, and correcting damage to trees resulting from construction projects.

Action Taken – The AOC updated section 015300 of the AOC Planning and Project Management contract specifications for Landscape Protection and Restoration. As described in detail in the OOC’s May 18, 2018 Report, the provisions in the updated contract specification satisfy the requirements of this Action Item.

Action Item 2E – Tree Disturbance Standard for Events

Action Required – The AOC was required to develop and implement a tree disturbance standard for preventing, assessing, and correcting damage to trees resulting from major events that take place on the Capitol Hill campus.

Action Taken – In May 2018 the AOC finalized its Tree Protection During Events Standard Operating Procedure. The SOP provides for the delineation, marking, and securing of tree protection zones, and is designed to keep equipment and tents far enough away to preserve tree health and avoid soil compaction. The CG has implemented these procedures during several large-scale concert events over the past several months in collaboration and cooperation with several other organizations both within and outside of the legislative branch.

Review of Internal Controls

We evaluated the AOC’s improvements to its internal controls for tree management practices. Prior to the accident, the AOC did not have a formal set of protocols or risk management program, and lacked the resources to manage the risk from tree incidents. Since that time, CGA has augmented resources and implemented significant improvements to its tree management practices, most of which are presented in OCWR’s January 24, 2019, closure memorandum, as stated above, and is continuing to upgrade its tree maintenance practices.

Criteria

The following criteria were used during this evaluation:

- OCWR May 18, 2018, report on urban tree management practices of AOC (OSH 2017-02)
- OCWR Case Closure Memorandum – OSH 2017-02, January 24, 2019
- CGA Tree Risk Tolerance Levels Standard Operating Procedure, May 19, 2018
- CGA Management During Capitol campus Events Standard Operating Procedure, May 19, 2018
- CGA Tree Removal Notification, SOP, January 16, 2018

- Construction Project Specification Sheet - Section 015300 Landscape Protection and Restoration
- AOC Order M-28-8 AOC Design Standards, December 26, 2018
- Arboretum Assessment for CGA Statement of Work AOCSSB20C1017, April 23, 2020
- U.S. Department of Labor OSHA of 1970 Section 5, Duties, General Duty Clause
- Davey Resource Group *Arboretum Management Plan*, January 30, 2018 (includes Level 3 Risk Assessment)
- Urban Canopy Works, LLC, *US Capitol Grounds Level 3 Risk Assessment Summary*, March 2019
- American National Standards Institute (ANSI) A300 and Z60.1-2014
- International Society of Arboriculture (ISA) Tree Risk Assessment Form – 2017

Finding 1

CGA Lacks a Formalized Training Tracking System

We found that the CGA had no formal tracking system for training in conjunction with individualized training requirements. This occurred because supervisors were not tracking training required to maintain professional certifications. As a result, there is inadequate supervisory oversight for ensuring that tree care personnel are retaining their certification credentials via continuing education.

Discussion

The Operations Review section⁶ of an Arboretum Management Plan contracted from Davey Resources Group in 2018 identified the need for improvements to staff training and development, citing an AOC 2017-2021 Strategic Plan goal to implement a more formalized training management system for supervisors to track training requirements. During our review, we found that although the CGA had significantly increased its attention to and support for training, particularly safety training, there is no formal tracking system for training in conjunction with individualized training requirements, and supervisors are not tracking training required by staff to retain professional certifications.

The CGA training records reflected that the focus on training for Tree Branch personnel was on ensuring their needs are met in terms of certifications, industry trends and safety training. Safety trainings occurred in both 2019 and 2020, with outside experts providing higher-risk safety training. However, although records showed additional symposium-type trainings that would provide the continuing education units necessary for certification retention, planning for the latter is ad hoc

⁶ Davey Resources Group. (January 30, 2018). *Arboretum Management Plan*. pp. 51-61.

with little supervisory involvement in tracking these against certification requirements.

Conclusion

Implementation of a formal training tracking system will help supervisors certify that employees appropriately maintain their credentialing requirements. It will also help the CGA tailor individual training plans to match employee job descriptions and career growth. Finally, as noted in the Arboretum Management Plan, documentation that safety training occurred is important in protecting AOC from liability and financial risks should incidents occur.

Recommendation

Recommendation 1

We recommend that the CGA implement a formalized training tracking system, with consideration given to the AOC Training department initiatives planned or currently in place. This system should be regularly reviewed by Supervisors to ensure employees appropriately maintain their professional certifications and as a tool for individualized career development planning.

AOC Comment

We concur. Capitol Grounds and Arboretum certified arborists will be required to submit a copy of their individual Certified Arborist Continuing Education Unit (CEU) report for inclusion in their annual AOC employee Performance Plan.

OIG Response

We recognize the AOC's concurrence with the recommendation. CGA's addition of CEUs to their annual performance plan process is responsive to the recommendation. Therefore, the recommendation is considered resolved and will be closed upon completion and verification of the proposed action.

Ongoing Improvements

The OCWR's 2019 closure memorandum reported on ongoing improvements to the AOC's tree management practices, noting an improved risk management program and safety culture within the CGA which extended to other AOC jurisdictions. Improvements to its five identified areas of deficiency (inventory, tree risk assessment, high risk tolerance, insufficient resources and inefficient processes) included the appointment of a new CGA Director, the addition of an Urban Forester, implementation of an online tree inventory system, completion of a Level 2 re-inventory of all trees within its jurisdiction in 2019, and completion of an Arboretum Management Plan. During our review we found that actions reported on in this memorandum remain in place, and that the AOC continues to implement changes to

its arboriculture management program to ensure the safety of staff and visitors to the campus, as well as the health of the AOC’s urban forest. These improvements are discussed below.

Policies Implementation

OSH 2017-02 states that there are no OSHA standards specific to tree care and management, and arborists typically follow ISA risk assessment standards and ANSI A300, specifically Part 9 (tree risk assessment), Part 5 (management of trees and shrubs during site planning, site development, and construction), and Part 8 (root management). Almost all ANSI A300 standards state: “These standards are used to develop written specifications for work assignments. They are not intended to be used as specifications in and of themselves. Management objectives may differ considerably and therefore must be specifically defined by the use. Specifications are then written to meet the established objectives and must include measurable criteria.”

Taken together, ISA and ANSI A300 standards and Best Management Practices (BMPs)⁷ are the foundation for the AOC’s current tree maintenance program, and have been incorporated into the CGA tree maintenance processes via inclusion into newly implemented policies, improvements to existing policies, or as additions or revisions to contract specifications and deliverables. Further, data fields in Treekeeper®, the AOC’s system of record for tree inventory, assessment⁸, and mitigation activities, are designed to mirror ISA’s Tree Risk Assessment checklist, thereby ensuring compliance with best practices and industry standards. ANSI and ISA standards are also

Subjectivity of Tree Care Determinations

OSH 2017-02 “strongly urged” implementing all recommendations of a Consulting Arborist’s review of the AOC’s tree management program. The OIG sampled an unimplemented recommendation; a recommendation to remove turf grass (turf) from the base of trees to prevent damage from grass trimming, by citing a tree with turf to its base noted on Capitol Grounds during our test work. The CGA Director provided reasons for not removing turf in this instance which reflect decisions that balance historic preservation of the grounds, cost and tree health considerations:

“The essence of the recommendation is that removing turf that abuts a tree will reduce the chance of physical damage to the tree that may be caused by a string trimmer or lawn mower. Mulch also provides many beneficial factors to the roots and soil including reduced compaction and reduced water competition. However, mulch also results in additional labor time devoted to weeding or chemical control. Removing turf from the base of a mature tree is also a calculated risk. ...Other considerations are historical context. The Olmsted landscape is historically intended to be viewed *with* turf to the base of the tree.... Ultimately, we make decisions based on tree health.Removing turf from this tree would be an unnecessary expense and risk.”

⁷ Smiley, E. T., Matheny, N., & Lilly, S. (2017). *Best Management Practices: Tree Risk Assessment* (Second Edition).

⁸ BMPs assign levels of assessment as follows: **Level 1 – Limited Visual Assessment** - a visual assessment from a specified perspective such as foot, vehicle, or aerial patrol of an individual tree or a population of trees near specified targets, to identify specified conditions or obvious defects; **Level 2 – Basic Assessment** - detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor inspect completely around the tree trunk looking at the visible aboveground roots, trunk, branches, and site; and **Level 3 – Advanced Assessment** - an assessment performed to provide detailed information about specific tree parts, defects, targets, or site conditions. Specialized equipment, data collection and analysis, and expertise are usually required. (Smiley, E. T., Matheny, N., & Lilly, S. (2017), *Best Management Practices: Tree Risk Assessment* (Second Edition), pp. 47 and 49).

incorporated into the AOC certification requirements for CGA staff and personnel on the AOC contracts for work that may impact trees.

We reviewed AOC policies and processes for incorporation of ANSI's requirement for measurable criteria and found this was consistently addressed through various means. Measurable criteria for ANSI Parts 3 and 4 are addressed via checklists for tree protection processes and are provided to contractors performing tree assessment work. Statements of Work for assessment contracts require that work is performed by certified tree care professionals, another measurable criterion. Measurable criteria for ANSI Parts 5 and 8 are largely addressed via project deliverables, planning documents, and inspection reports required by AOC design documents and contract specifications. ANSI Part 9 standards for measurable criteria are addressed via staff qualifications, and by documentation in Treekeeper® of ongoing assessment and mitigation. Treekeeper's® data fields provide measurable intervals (dated entries) for all maintenance activities and therefore also mitigation response timeframes when risks are identified.

Although they are referenced in the Arboretum Management Plan, contract specifications, and a draft AOC Tree Management Plan currently being finalized, our review found that the CGA has not developed SOPs and guidance documents for all ANSI A300 standards, and in some cases uses the standards themselves as de facto SOPs. We found that in areas where the CGA lacks AOC-developed guidance documents directly related to an ANSI standard, the ISA-certification requirement for Arborists and the direct reliance on the ANSI standards themselves serve as the control for ensuring measurable criteria, with arborist determinations made per ANSI standards for tree care.

Overall, our review found that the CGA developed SOPs specific to most ANSI standards, and in cases where it has not, reasons for not doing so were well considered and within the parameters of ANSI's direction that management objectives may guide the development of work assignment specifications. Similarly, the CGA's responses to recommendations included in both the original May 2018 OSH report and other documents, such as the Davey Resource Group Arboretum Management Plan, reflect a well-reasoned and pragmatic approach to tree care, as well as the subjective nature of tree maintenance determinations noted in the OSH report and accounted for in ANSI guidance for the development of specifications. (See Text Box "Subjectivity of Tree Care Determinations".)

Improved Tree Risk Assessment Processes

A significant finding of OSH 2017-02 was that AOC's standards for tree care did not appear to place the highest priority on protecting employees and the public from hazards posed by trees. OSH 2017-2 found that contrary to an ISA best management practice, the CGA's risk assessment methodology was focused on the tree's likelihood of failure, not the potential consequences...." This report stated that at the time of the accident, "the AOC's tree management practices fell short of industry standards in several ways."

Our evaluation found that measures enacted in response to this OSH 2017-02 finding remain in place and are diligent, in some instances exceeding standards and BMPs for risk assessment, mitigation, and inspection intervals (the time between assessments). BMPs show inspection intervals to typically range between one to five years, or more or less often depending on tree age, risk level, specific conditions and client goals and resources.⁹ CGA contracts out annual Level 2 and 3 assessments, following the BMP of conducting these in alternating seasons, and CGA Arborists conduct continual Level 1 assessments; these are most often performed before and after public events, storms, and police operations (for the latter, for example, assessments are conducted to check for obvious defects, damage or structural issues before and after U.S. Capitol Police helicopter drills).

Additionally, CGA arborists routinely perform Level 2 and Level 3 assessments determined by individual tree requirements. Finally, as noted in the OCWR closure memorandum, the CGA established a Tree Risk Tolerance Levels¹⁰ SOP that states that safety is the primary basis for establishing risk levels and mitigation of trees identified as extreme or high risk¹¹ should take priority over other arboricultural work. This SOP also calls for impact zones for trees identified as extreme or high risk to be secured (cordoned off) immediately.

The OIG test work included observation of a Level 3 sonic tomography¹² performed on a tree identified as warranting further assessment. (See text box “OIG Observation”.) The history of the CGA’s tree care in this instance reflects the effectiveness of the CGA’s continual monitoring, in conjunction with outside assessment, as controlling for both the subjective nature of risk determinations and “that it is impossible to completely eliminate all risk posed by trees.”¹³ The CGA’s

OIG Observation of Sonic Tomography

On August 17, 2020, the OIG observed a tomography performed on an AOC campus tree. The following is a timeline of this tree’s assessment and mitigation history:

- Assessed by contractor in 2017 as moderate risk due to a few dead limbs, the limbs were removed in 2017.
- 2018 Level 3 assessment performed after the CGA Urban Forester noted multiple fungal species in the root zone; resistance drilling on root flaring found some level of decay. Recommended for continued monitoring.
- 2019 contractor-performed Level 3 assessment resulting in a low risk rating.
- 2020 tomography resulted in findings which elevated the risk rating to high.
- Mitigation (removal of top half) occurred the same day; the entire tree was removed the following day.

⁹ Smiley, E. T., Matheny, N., & Lilly, S. (2017). *Best Management Practices: Tree Risk Assessment*, (Second Edition), pgs. 47 and 49.

¹⁰ Tree risk ratings (“risk tolerance”) of low, moderate, high or extreme and are assigned based on the combination of the likelihood of a tree failure impacting a target, and the consequence of that failure. (Davey Resource Group, *Arboretum Management Plan*, January 30, 2018, p. 90)

¹¹ Mitigation is the action taken to reduce risk; the mitigation typical timeframe for extreme risk trees is as soon as possible, and for high risk trees is as soon as practical when the work schedule or pruning cycle allows. (Urban Canopy Works LLC, *US Capitol Grounds Level 3 Risk Assessment Summary*, March 2019, p. 7)

¹² Sonic tomographs are instruments that detect decay and cavities in standing trees non-invasively by measuring the velocity of sound waves in wood. (Retrieved December 8, 2020, p. 3, from https://www.isa-arbor.com/events/schedule/resources/167/Gocke_Tomography.pdf)

¹³ OCWR, Memorandum Re OSH 2017-02 from Hillary G. Benson, Associate General Counsel to John D. Uelmen, General Counsel, January 24, 2019.

continuous monitoring assists them in identifying trees in need of further assessment with advanced techniques such as tomography.

Interviews with the CGA tree maintenance staff reflected that mitigation of trees identified as posing a risk occurs with a level of immediacy that was viewed as uncommon in their industry. The AOC's practice of conducting continual Level 1 assessments augmented by annual contracted Level 2 and 3 assessment reflect that the AOC has significantly addressed and maintained improvements to its tree risk management program and safety culture.

CGA Response to the COVID-19 Pandemic

We found that the CGA's processes for responding to the COVID-19 outbreak were proactive and effectively address impairments to tree maintenance practices because of the pandemic, as well as worker and campus visitor safety issues.

Operational changes made by the CGA include dividing its tree crew into two teams, alternating their on-site presence on a weekly basis to limit the potential spread of COVID-19. Changes were also made to work-site transportation processes, and Personal Protective Equipment requirements were added to address infectious disease transmission. To compensate for reduced on-site staffing levels, the CGA receives assistance from the CGA's maintenance crew when needed, and also makes use of small contracts for some tree maintenance tasks, particularly those requiring larger crews. As of October 19, 2020, contracts awarded for mitigation-related work, tree and stump removals, and pruning totaled \$82,508. The CGA's annual contracted risk assessments have remained in place and were in process at the time of our review, in addition to daily Level 1 assessments performed by CGA staff. Overall, our review found that safety risks posed by trees continue to be addressed at a high level during the pandemic, with trees identified as high risk continuing to receive immediate attention.

Conclusion

Our review found that in addition to developing and maintaining a high level of tree care, improvements made to tree maintenance processes have earned CGA ArbNet's¹⁴ Level 2 arboretum status, and the CGA is in the process of developing the robust educational curriculum required for Level 3 accreditation. The CGA is also well positioned to benefit from a recently implemented AOC-wide organizational restructuring, as well as community-of-practice groups created to address an AOC Strategic Plan 2017-2021 initiative. In this initiative, the CGA serves as lead for a team of jurisdictional representatives tasked with developing standards for the management of gardens and grounds agency-wide, to include a tree management standard. This team also addressed winter weather management, irrigation, turf, soils, and integrated pest management, with the goal of going further than general policy to

¹⁴ ArbNet is the only international program of accreditation for arboreta. This program was developed to establish and share a widely recognized set of industry standards for the purpose of unifying the arboretum community. (Reference retrieved November 30, 2020, from <http://test.arbnet.org/arboretum-accreditation-program>)

pursue best practices and improve SOP specifics. This holistic and cross-jurisdictional communication augments the AOC's practices for stewardship of Capitol Grounds, and tree maintenance practices in specific.

Appendix A

Scope and Methodology

We conducted this evaluation from July 2020, through October 2020, in accordance with the Council of the Inspectors General on Integrity and Efficiency's Quality Standards for Inspection and Evaluation. These standards require that we plan and perform the evaluation to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our evaluation objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our evaluation objectives.

This report was self-initiated by the AOC OIG. Our objective for this evaluation was to determine if the AOC's implementation of OCWR-recommended improvements to its tree maintenance program were appropriate and effective. This evaluation also included a limited review of the AOC's response efforts to the COVID-19 pandemic.

During our evaluation we reviewed relevant CGA policies and procedures related to tree maintenance and evaluated compliance with tree maintenance policies and procedures. We conducted interviews with appropriate CGA officials and staff to determine how processes and procedures were carried out in a day-to-day manner. We also performed site visits to evaluate the CGA's tree risk inventory and assessment processes.

Use of Computer-Processed Data

We did not use computer-processed data to perform this evaluation.

Prior Coverage

In the past five years, prior coverage of the AOC's tree maintenance program included the OCWR May 18, 2018, report on urban tree management practices of the AOC addressed in this evaluation (OSH 2017-02), as well as the January 24, 2019 OCWR Case Closure Memorandum for that report.

Appendix B

Management Comments



Architect of the Capitol
U.S. Capitol, Room SB-16
Washington, DC 20515
202.228.1793
www.aoc.gov

DATE: January 29, 2021

TO: Mr. Christopher P. Failla
Inspector General

FROM: J. Brett Blanton 
Architect of the Capitol

SUBJECT: Response to Official Draft Evaluation Report 2020-0003-IE-P, Architect of the Capitol's Tree Maintenance Program

The Architect of the Capitol (AOC) thanks you for the opportunity to review and provide a response on the Office of the Inspector General (OIG) draft report in accordance with sections 6.2.7 and 6.2.8 of AOC Order 40-1, Authority and Responsibilities of the Office of Inspector General (OIG) and Cooperation of Architect of the Capitol (AOC) Employees.

The AOC concurs with your overall assessment that Office of Congressional Workplace Rights directed improvements to our tree management practices were appropriately implemented and maintained, and that we continue to make significant improvements to these practices. We also concur with your recommendation to track training for maintaining professional certifications. Below is our response to the recommendation in the report.

Recommendation 1

We recommend that the Capitol Grounds and Arboretum implement a formalized training tracking system, with consideration given to the AOC training department initiatives planned or currently in place. This system should be regularly reviewed by supervisors to ensure employees appropriately maintain their professional certifications and as a tool for individualized career development planning.

AOC Response

We concur. Capitol Grounds and Arboretum certified arborists will be required to submit a copy of their individual Certified Arborist Continuing Education Unit (CEU) report for inclusion in their annual AOC employee Performance Plan.

Including the CEU report will formally document the supervisory review of the employee's professional certification. This requirement will be effective with the 2021 Performance Plan cycle currently due January 31, 2021. The supervisory review will occur at the end of each annual performance period.

Thank you for the opportunity to provide comments on the draft report. Please contact Jim Kaufmann at 202.224.3069 or jkaufman@aac.gov if you have any questions.

Doc. No. 210119-10-01

Announcement Memo



Office of Inspector General
Fairchild Bldg.
499 S. Capitol St., SW, Suite 518
Washington, D.C. 20515
202.593.1948
www.aoc.gov

United States Government
MEMORANDUM

DATE: June 30, 2020

TO: J. Brett Blanton
Architect of the Capitol

FROM: Christopher P. Failla, CIG 
Inspector General

SUBJECT: Announcement for Evaluation of the Architect of the Capitol's (AOC's) Tree Maintenance Program (2020-0003-IE-P)

This is to notify you that the AOC Office of Inspector General is initiating an evaluation of the AOC's tree maintenance program. Our objective is to determine if improvements directed by the Office of Congressional Workplace Rights¹ (OCWR) in 2018 to the AOC processes for tree inspection and safety-related issues were appropriately implemented and maintained, and if they effectively address safety hazards from trees located on the U.S. Capitol campus.

We have contacted the appropriate AOC offices to schedule an entrance conference in the upcoming weeks. If you have any questions, please contact Evaluator Audrey Cree at acree@aoc.gov or 202.631.2682, or Assistant Inspector General for Inspections and Evaluations Josh Rowell at Joshua.Rowell@aoc.gov or 202.593.1949.

Attachment

Distribution List:

Thomas Carroll, Assistant to the Architect of the Capitol
James Kaufmann, Director, Capitol Grounds and Arboretum
Peter Bahm, Chief of Staff
Mary Jean Pajak, Senior Advisor
Jason Baltimore, General Counsel

¹ The Office of Congressional Workplace Rights was formally known as the Office of Compliance. It was renamed on December 21, 2018, and for the sake of clarity will be referred to as such in this evaluation.

Acronyms and Abbreviations

ANSI	American National Standards Institute
AOC	Architect of the Capitol
BMP	Best Management Practices
CAP	Corrective Action Plan
CGA	Capitol Grounds and Arboretum
COVID-19	Novel Coronavirus
ISA	International Society of Arboriculture
OCWR	Office of Congressional Workplace Rights
OOC	Office of Compliance
OIG	Office of Inspector General
OSHA	Occupational Safety and Health Act



OFFICE OF THE INSPECTOR GENERAL
Fairchild Building, Suite 518
499 South Capitol Street, SW
Washington, DC 20515
(202) 593-1948
hotline@aac-oig.org