



Tree Preservation Fees



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TREE PRESERVATION FEES AUDIT REPORT SUMMARY

Objective

This audit was conducted to determine whether adequate controls exist to ensure that the Tree Canopy Preservation Program (TCPP) is administered in accordance with applicable ordinance requirements and that program fees are accurately calculated and deposited appropriately.

Background

The Urban Forestry division of the Planning Department (Planning) oversees the TCPP.

City Council adopted a goal of 50 percent tree canopy coverage by the year 2050. Urban Forestry assesses development and mitigation fees to achieve this goal. During FY 2025, \$6 million payment-in-lieu fees were collected.

The TCPP supports the canopy goal through acquisition and protection of properties that are already forested or by providing planting opportunities. In FY 2025, \$3 million was spent on purchasing and maintaining preservation properties.

Conclusion

Tree Save Payment-in-Lieu fee revenue administered by the City's Tree Canopy Preservation Program supports land conservation efforts. Opportunities exist to improve controls for fee calculations, revenue recording, and alignment with long-term canopy goals.

1. Urban Forestry supervisors provide oversight for plan reviews on a case-by-case basis; however, supervisors are not required to review fees assessed by plan reviewers, resulting in errors going undetected.

- Supervisors reviewed 10 of 93 sampled plan reviews, accounting for 24% of fees assessed.
- Auditors only found four errors, representing 3% of fees assessed.
- Planning should establish written procedures for supervisors to consistently oversee staff's plan reviews.

2. Planning has not reconciled revenue recorded in Accela with revenue recorded in Workday.

- Auditors noted an unreconciled difference of \$48,720 (3.3%) on FY26 revenue of \$1,445,979.
- Miscoded revenue item of \$106,000 went undetected.
- Planning should reconcile all revenue between Accela and Workday.

3. Planning has not periodically assessed how well tree preservation regulations are aligned with its strategic goal.

- Request for Proposal issued for consultant to review current program; results expected in CY 2026.
- In addition to considering and implementing acceptable consultant recommendations, the Planning Director should establish a specified cadence for periodic review of objectives to ensure current practices remain aligned with long-term strategic goals.

Although not in the audit scope, Internal Audit provided Planning a COSO control matrix specifically for the TCPP purchase process ([Appendix B](#)).

Actions Planned

Planning accepted all recommendations and is working to implement corrective actions by March 31, 2027.

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Objective

This audit was conducted to determine whether adequate controls exist to ensure the program is administered in accordance with applicable ordinance requirements and that program fees are accurately calculated and deposited appropriately.

Background

Charlotte's Tree Canopy Preservation Program seeks to acquire and conserve land within Charlotte with the goal of preserving and protecting one of the Queen City's most important natural resources: its nationally recognized tree canopy. The Tree Canopy Preservation Program was initially focused solely on targeting large areas of land for tree canopy conservation. However, with the high land cost close to the city center and many projects paying into the fund from that area, the Tree Canopy Preservation Program has evolved. The program now seeks smaller urban sites while still working to purchase large properties for conservation. These urban sites will become part of the Urban Arboretum Trail and will highlight the benefits of trees while also allowing for flexibility for other important community elements (art, history, character, placemaking, etc.).

Charting Charlotte's Tree Preservation Growth



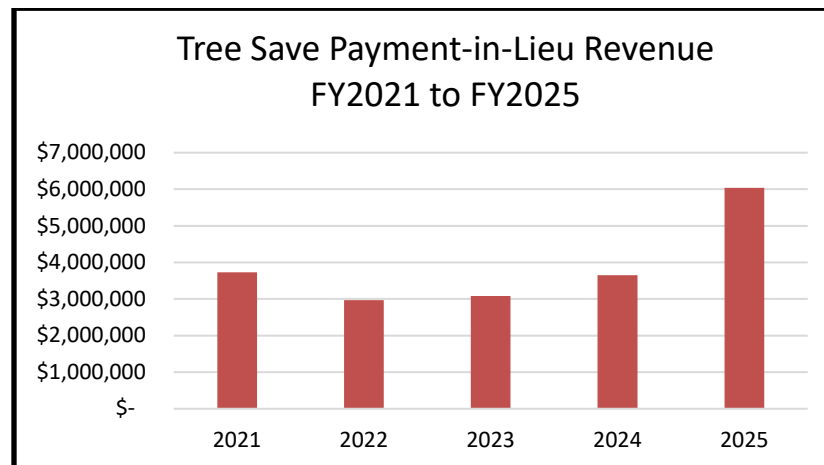
- 1978** Council adopted Tree Ordinance-provided commercial tree planting requirements
- 2000** Revised tree planting requirements for Uptown mixed-use district and mixed use development district (MUDD) zones
- 2006** Assembled stakeholders to revise commercial tree planting and tree save requirements
- 2011**
 - Tree Ordinance revised to provide options for tree save compliance, the payment-in-lieu option, off-site mitigation, and green roofs.
 - City Council adopted a goal of 50 percent tree canopy coverage by the year 2050.
- 2017** Urban Forest Master Plan adopted September 25, 2017
- 2021** Tree canopy policy objectives outlined in City Council's 2040 Comprehensive Plan adopted June 21, 2021
- 2022** The City's Unified Development Ordinance (UDO 20) adopted providing additional green area requirements and allowing developers, in some cases, the ability to pay into the Tree Conservation Fund in lieu of preserving trees on site.
- 2024** The UDO introduced collection requirements of Heritage Tree Mitigation preservation fees for development and non-development scenarios.

Green Area Development Requirements

UDO Section 20.15 ([Appendix C](#)) outlines green area requirements which apply to development activity within the corporate limits of the City and the City's extraterritorial jurisdiction. General requirements for new development projects include:

- 15% or more of a development site shall be green area
- Credits are provided for tree save areas, replanted trees, certain land donations and off-site tree mitigation based on published schedules (see Table 20-5 in [Appendix C](#))
- Developers may make payments-in-lieu of obtaining the necessary credits when qualified. Payments are based as a percentage of the tax value (subject to a cap) of the land being developed

Monies collected for green area payment-in-lieu fees are deposited into a Housing and Neighborhood Services special revenue fund. Project accounts are used for the acquisition and preservation of land to ensure Charlotte's tree canopy is maintained for future generations. Over the past five fiscal years, over \$19 million has been received, as shown in the chart below.

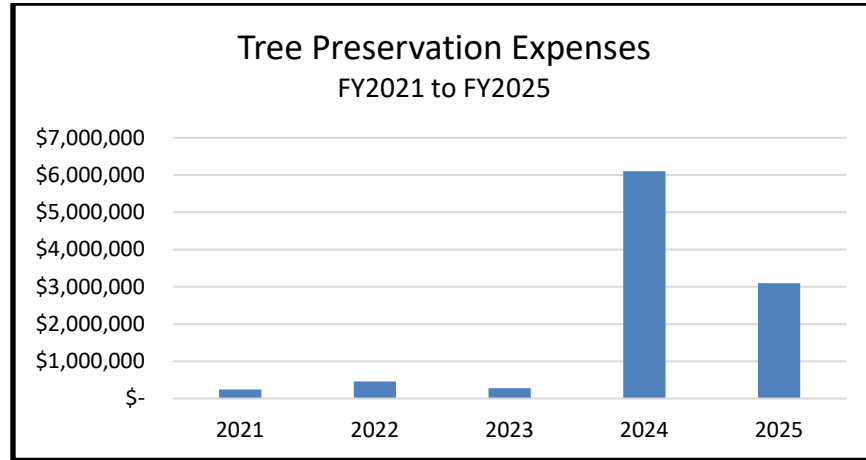


Source: Munis Financial System

Tree Preservation Acquisitions

The acquisitions under Charlotte's tree ordinance are voluntary, and staff work with property owners to acquire land identified in cooperation with local conservation organizations like the Catawba Lands Conservancy and other municipal agencies like Mecklenburg County Park and Recreation. After acquisition, the City places properties under conservation easements or other legal use restrictions to protect the tree canopy into the future.

According to Request for Council Action dated January 13, 2025, the Tree Canopy Preservation Program has acquired and preserved over 420 acres of land to date and protected approximately twice as much land than developers would have been required to under the on-site tree save option. Over the past five fiscal years, the City has spent over \$10 million on tree preservation expenses. A breakdown is shown below:



Source: Munis Project Ledger

As of June 30, 2025, the Tree Canopy Preservation Program had a balance of \$10.8 million.

Findings and Recommendations

1. *Urban Forestry supervisors provide oversight for plan reviews on a case-by-case basis; however, supervisors are not required to review fees assessed by plan reviewers, resulting in errors going undetected.*

[The Charlotte Tree Manual](#) provides additional guidance and clarity related to compliance procedures to support the tree regulations and requirements within the Charlotte Tree Ordinance and UDO. The Urban Forestry Group within the Planning Department's Community Tree Canopy Preservation Division uses the calculation formulas outlined in the UDO and Tree Manual to determine tree save percentages and payment-in-lieu and tree mitigation fees. **The Tree Manual does not require that Urban Forestry supervisors review all payment-in-lieu and tree mitigation fee calculations.**

According to Urban Forestry, the complexity of the topics and formulas contained in the Unified Development Ordinance (UDO) and the Tree Manual requires significant time to master. As a result, it typically takes new reviewers approximately two years to independently review developer submittals. During this training period, more experienced staff review development plans for accuracy and compliance when new employees are assigned plan reviews that include payment-in-lieu fees, tree mitigation calculations, or other related fees. In addition, supervisors provide oversight of staff reviews of developer plans when customer service inquiries and conflicts arise during the plan review process.

Internal Audit judgmentally selected a sample of 93 developer plan reviews from fiscal years 2024 and 2025 that included either payment-in-lieu fees or tree mitigation fees totaling \$5.3 million, representing 45% of total revenue (\$11.7 million). Supervisory review was documented for 10 of the 93 (10.7%) development plans, accounting for 24% of the dollar value of fees assessed.

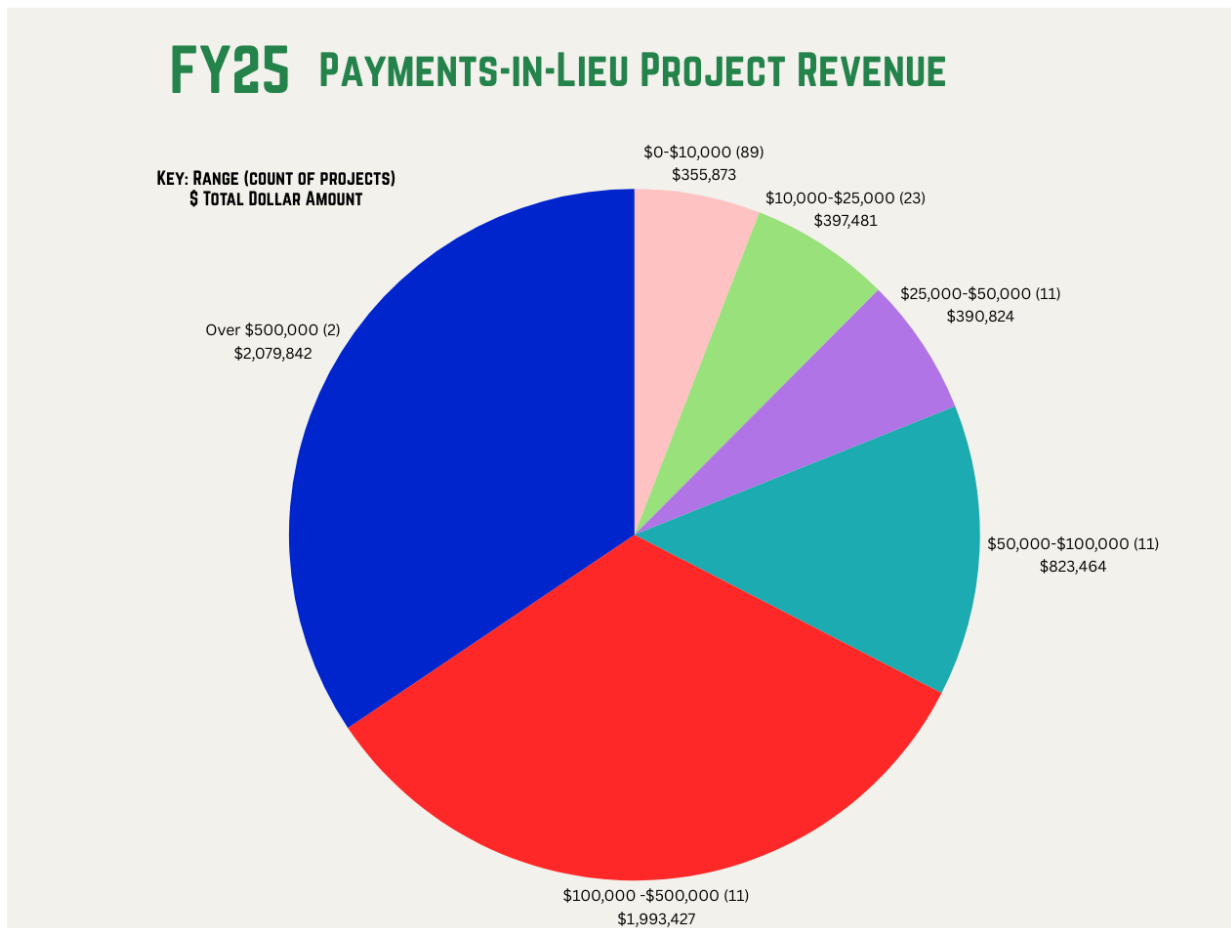
Auditors noted \$146,479 (3%) in errors:

Plan Number	Auditor Calculation	Fee Charged	Difference	Resolution
LDUMUDD 2023 00008	\$ 20,317	\$ 11,842	\$ 8,475	See Note A
LDCP 2024 00685	\$ 0	\$ 6,136	\$ (6,136)	See Note B
LDCP 2024 00391	\$ 67,034	\$ 28,894	\$ 38,140	Invoiced Developer
LDCP 2023 00113	<u>\$ 106,000</u>	<u>\$ -</u>	<u>\$ 106,000</u>	See Note C
Total	\$ 193,351	\$ 46,872	\$ 146,479	

- A. LDUMUDD 2023 00008-Planning is going to invoice developer.
- B. Urban Forestry noted that this project was a part of another project where all the fees were paid and will be refunding the developer \$6,136.
- C. The \$106,000 error noted above was a Right of Way tree mitigation fee that was subsequently collected by Urban Forestry and incorrectly recorded in the Tree Preservation fund, creating a reconciling item (See Finding #2).

Fees assessed under the TCPP to individual projects can exceed \$500,000 – as noted in the graphic below. The potential high value of fees assessed to an individual project and the lack of secondary or supervisory review increases the risk of fraud and could lead to inconsistent enforcement, legal vulnerability, loss of revenue, and loss of public trust. The risk of fraud is mitigated by the following:

- Urban Forestry staff have no access to the revenue collected; clients are required to submit payments through an on-line portal.
- Program staff in the Community Tree Canopy Preservation Division responsible for administering collected revenue through tree programs follow all applicable City processes and routinely meet with the division manager and Planning Budget Team for periodic review.



Recommendation 1: Planning should establish formal, written procedures requiring supervisory oversight of staff reviews of developer plans. The degree of supervisory review should be commensurate with the reviewer’s experience, the expected dollar value of fees, and the complexity of the plans under review.

Value Added: Compliance; Risk Reduction

Planning Response: Urban Forestry acknowledges that recommendations to better standardize supervisory oversight of plan review process and implement additional quality control best practices may be needed to improve overall effectiveness, ensure greater plan review consistency, prevent loss of revenue, reduce legal vulnerability, and ensure public trust.

The Chief Urban Forester is responsible for working with Planning Director and Urban Forestry Supervisor (the Team) to implement corrective action. Corrective action will be implemented by the Team by the end of FY26. The Team will take on the following action items: 1) complete an assessment of Urban Forestry’s current plan review process, staff resource level, and budget to determine capacity to implement recommended improvements; 2) engage and collect feedback from Urban Forestry staff, the development industry, and other stakeholders related to recommended improvements. New formal standardized plan review and supervisory oversight procedures will be implemented by the end of FY26.

2. *Planning has not reconciled revenue recorded in Accela with revenue recorded in Workday.*

Under the COSO Internal Control Framework (see [Appendix A](#)), control activities – such as reconciliations and verifications – should exist to provide reasonable assurance that financial information is accurate, complete, and authorized. Specific to the Tree Program, reconciliation processes ensure the timing and amount of revenue recorded in Workday match the underlying service delivery data captured in Accela.

Planning staff noted they have not established a regular cadence for reconciling revenue between Accela and Workday. Auditors reviewed Accela and Workday transactions through November 2025 and noted the following:

FY 2026 Revenue		
(Five months ended November 2025)		
	<u>Accela</u>	<u>Workday</u>
Total	\$ 1,445,979	\$ 1,647,773
Adjustments:		
Duplicate Entry		(47,074)
Miscoded Entry		<u>(106,000)</u>
Adjusted Total	\$ 1,445,979	\$ 1,494,699
Unreconciled Difference		<u>\$ 48,720</u>

During discussions with Planning staff, auditors learned that the following impacts Planning's ability to reconcile Workday and Accela:

- After the implementation of Workday, Planning discovered that revenues were not being allocated to projects as expected. Specific project accounts previously existing in MUNIS were not created by the Workday implementation team. To ensure revenues are recorded in the correct fund and project, departments are required to submit a Workday system request to establish the correct account/project string for each identified revenue source.
- Revenue recorded in Accela (fees invoiced) but not yet received, is not recorded in Workday. For example, as noted in Finding #1, Urban Forestry invoiced a developer an additional \$38,140 in tree save fees. Although this amount has not been paid by the developer, it is not recorded as a receivable in the Workday financial system. Accela revenue reports available to Internal Audit included all invoiced fees without indication of which fees had been received.

If periodic reconciliations between Workday (the financial system of record) and Accela (invoicing system) are not performed, several risks emerge, primarily related to the accuracy and completeness of financial reporting, as well as operational inefficiencies and compliance issues. These risks could lead to missed collections, an understatement of assets, and inaccurate budget forecasts. In addition, discrepancies that go unnoticed due to a lack of reconciliation can provide opportunities for fraud or errors without detection.

Recommendation 2: Planning should reconcile all revenue between Accela and Workday. Revenue should be moved to the appropriate project codes once a system request has been fully implemented.

Value Added: Risk Reduction; Effectiveness

Planning Response: Planning agrees that the reconciliation process would benefit from the recommended improvements. Planning did not have control over how project accounts were transferred during the Workday transition. Important tree revenue project accounts were not created or transferred over by the Workday implementation team.

Work to create appropriate project accounts and correct the flow of fee revenue to the correct tree revenue accounts was completed in December 2025 by Planning's Budget Team. Manual correction and reconciliation of fee revenue collected prior to December 2025 is ongoing and should be completed by Planning's Budget Team by the end of March 2026.

In February 2026 Urban Forestry and Planning's Budget Team discussed the concept of creating receivables in the Workday financial system that mirror tree fee invoices produced in Accela. These teams will continue reviewing this recommendation with the goal of updating the Workday system by the end of FY26 to create receivables that mirror Accela

invoices when invoices are initially created. This effort will require significant coordination between multiple departments to align the Teller, Accela, and Workday systems.

3. Planning has not periodically assessed how well tree preservation regulations are aligned with its strategic goal.

In accordance with the COSO Internal Control – Integrated Framework, management is responsible for establishing Monitoring Activities (Principle 16) to perform ongoing and/or separate evaluations to ascertain whether the components of internal control are present and functioning (see [Appendix A](#)). This includes providing timely feedback on the achievement of operational or strategic goals to ensure that resources are directed, monitored, and measured effectively. Furthermore, Risk Assessment (Principle 6) requires management to specify objectives with sufficient clarity to enable the identification and assessment of risks to their achievement, ensuring current practices remain aligned with the entity's mission and long-term strategic goals.

Planning does not have a process in place to calculate whether current actions are meeting the City's canopy goals.

In late 2025, the City issued a Tree Canopy Action Plan 2.0 policy initiative Request for Proposal to engage a consultant, who will assist in evaluating the tree preservation program's progress toward its objectives in support of the City's goal to achieve the 50% canopy coverage goal by the end of 2050. It is expected that the consultant will make recommendations related to current policy, ordinance concepts and regulations, fees and guidelines by the end of calendar year 2026.

Recommendation 3: In addition to implementing accepted consultant recommendations, Planning should refine the existing cadence for periodic review of tree canopy policy and development requirements to ensure current practices remain aligned with long-term strategic goals.

Value Added: Effectiveness, Compliance

Planning Response: Planning agrees that the existing cadence and strategy to periodically review and analyze current policy and regulations should be refined to ensure current practices are adequately aligned with Council-adopted strategic goals. The Urban Forest Master Plan states canopy analysis should be completed every five years, while Goal 7 of the 2040 Comprehensive Plan has a policy goal of attaining an annual data assessment reality. The specific frequency of this cadence should be clarified along with the specific type and scale of analysis needed to adequately study understand current practices. Current ordinance concepts should especially be studied to understand how they contribute to achieve strategic goals with the intent of learning about current impact and possibly revising to better achieve success and deliver benefits to the community.

The foundation of this recommendation has been a critical element of project planning for the TCAP 2.0 policy initiative for some time. Planning has prioritized the need to increase understanding of what current tree regulations contribute to the community and to successfully achieving strategic goals. TCAP 2.0 kickoffs in March 2026 and this recommendation will be priority within data analysis, community engagement, and all other phases of the policy initiative. Upon completion of TCAP 2.0 in late 2026/early 2027 Planning will bring multiple policy recommendations and ordinance concepts to City Council to consider and approve. Developing a new clear and detailed cadence along with a refined and more detailed analysis strategy will be one of policy recommendations submitted to Council within the final TCAP 2.0 report.

Conclusion

Tree Save Payment-in-Lieu fee revenue administered by the City's Tree Canopy Preservation Program supports land conservation efforts. Opportunities exist to improve controls for fee calculations, revenue recording, and alignment with long-term canopy goals.

Distribution of Report

This report is intended for the use of the City Manager's Office, City Council, and Planning department. Following issuance, audit reports are sent to City Council and subsequently posted to the [Internal Audit website](#).

Scope, Methodology, and Compliance

Scope

The audit covered the non-regulatory user fee collections of Tree Save payments for FY2025 and the associated projects.

Methodology

To achieve the audit objectives, auditors performed the following:

- Interviewed Planning management and staff
- Reviewed user fee collections recorded in the city's financial systems
- Identified the population of developer plans associated with the Tree Save program
- Verified collection, deposit and fund use of tree save fees

Auditors selected a judgmental sample of 93 development plans based on dollar value and the size of the development. The results of the sample cannot be extrapolated to the population in total.

Compliance

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Government auditing standards require that we determine which internal controls are material to the audit objective(s) and obtain an understanding of those controls. To evaluate internal controls, the City Auditor's Office follows the Committee of Sponsoring Organizations of the Treadway Commission's Internal Control – Integrated Framework (COSO Framework) as included in Standards for Internal Control in the Federal Government (GAO Green Book).

In planning and performing the audit, auditors obtained an understanding of the processes used throughout Tree Preservation (Tree Save Payment-in-Lieu Fee) audit and the associated internal controls, assessed the internal control risks, and determined the following internal control components were significant:

- **Control Environment** – The set of standards, processes, and structures that provide the basis for carrying out internal control across the organization.
- **Control Activities** – The actions management establishes through policies and procedures to achieve objectives and respond to risks.

Internal control deficiencies that are significant within the context of this audit's objective(s) are stated in the Findings and Recommendations section of this report. For additional information regarding internal control components and the related principles of internal control, please see [Appendix A](#).

To further support understanding of internal controls related to tree preservation activities, auditors developed a high-level COSO control matrix specifically for the purchase process within the City of Charlotte's Tree Canopy Preservation Program. The matrix outlines key process steps, associated risks, and potential controls for tree purchases. While the tree-purchase process was not included within the scope of this audit, the matrix provides management with a structured view of the program's internal control environment and may be used to support ongoing documentation, process evaluation, and enhancement of controls. The matrix is provided in [Appendix B](#) for reference. Should this area be included in a future audit, Internal Audit will assess how the controls identified in the matrix have been considered or implemented over time.

Appendix A - COSO

The Five Components and 17 Principles of Internal Control

Control Environment

1. The oversight body and management should demonstrate a commitment to integrity and ethical values.
2. The oversight body should oversee the entity's internal control system.
3. Management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives.
4. Management should demonstrate a commitment to recruit, develop, and retain competent individuals.
5. Management should evaluate performance and hold individuals accountable for their internal control responsibilities.

Risk Assessment

6. Management should define objectives clearly to enable the identification of risks and define risk tolerances.
7. Management should identify, analyze, and respond to risks related to achieving the defined objectives.
8. Management should consider the potential for fraud when identifying, analyzing, and responding to risks.
9. Management should identify, analyze, and respond to significant changes that could impact the internal control system.

Control Activities

10. Management should design control activities to achieve objectives and respond to risks.
11. Management should design the entity's information system and related control activities to achieve objectives and respond to risks.
12. Management should implement control activities through policies.

Information & Communication

13. Management should use quality information to achieve the entity's objectives.
14. Management should internally communicate the necessary quality information to achieve the entity's objectives.
15. Management should externally communicate the necessary quality information to achieve the entity's objectives.

Monitoring

16. Management should establish and operate a monitoring mechanism that monitors both internal and external activities that impact the control system and evaluate the results.
17. Management should remediate identified internal control deficiencies on a timely basis.

Appendix B – COSO Matrix

Land Acquisition COSO Matrix				
COSO Component	Control Component Detailed Description	Control Owner	Design Assessment	Internal Audit Comments / Recommendations
Control Environment	TCPP preserves Charlotte's tree canopy through structured land acquisition, with roles and responsibilities assigned across departments and oversight by the Planning Division Manager. Documentation is maintained in a shared drive.	Planning Division Manager	Poorly designed	Recommend updating and consolidating all documents, which are currently dispersed across different files, into a single organized repository to improve accessibility and support effective audit review.
Risk Assessment	TCPP evaluates acquisition sites using structured criteria (environmental threats, development risk, regulatory changes). Management reviews evaluations collaboratively.	Planning Program Manager	Poorly designed	Include site evaluation criteria in formal policies and update them as criteria change to maintain consistency and transparency.
Control Activities	Multi-step site evaluation process with intake, site visits, internal review, and referral. Completion checklist signed by Planning Director.	Planning Program Manager	Adequately designed	
Control Activities	Purchases exceeding appraisal involve Real Estate negotiation, TCPD consultation, and review by Joint Use Taskforce if >20% above appraisal.	Planning Program Manager & Real Estate	Adequately designed	Include procedures for handling >20% above appraisal in policies.
Control Activities	Acquisitions approved via three-tier governance: Joint Use Taskforce, Planning Committee, City Council.	Planning Program Manager	Well-designed	
Control Activities	TCPD monitors program budget, balances, and interest; Prepares summary reports to Senior Management.	Planning Program Manager	Not assessed, as the control is not yet being performed by the department.	Financial info in Workday not fully up to date; department should coordinate with Finance/I&T and produce regular reports.
Information & Communication	Reports summarizing acquisitions, including costs, process, challenges, benefits, submitted to Senior Management.	Planning Program Manager	Not assessed, as the control is not yet being performed by the department.	
Monitoring Activities	Periodic program reviews to evaluate progress and identify improvements; Internal Audit is third line of defense.	Internal Audit	Not assessed, as the control is not yet being performed by the department.	Effectiveness not assessed; consultant engagement underway for program evaluation.

Appendix C – relevant UDO section(s)

20.15 GREEN AREA

A. Applicability and Exemptions

1. Applicability

The green area requirements of this section shall apply to all development activity, including grading in anticipation of such development, within the corporate limits of the City and the City's extraterritorial jurisdiction (ETJ), whenever development would result in any of the following:

- a. New construction of a principal structure.
- b. Cumulative increase in built-upon area (BUA) or building coverage equal to or greater than 5% or 1,000 square feet, whichever is less.
- c. Approval of a standard subdivision as defined by Section 30.3.A or approval of a minor subdivision as defined by Section 30.3.D.

2. Compliance

The intent of green area compliance is for a site to reach full compliance, even if an initial project(s) only requires proportional compliance. Green area requirement compliance shall be achieved as follows:

a. Full Compliance

Development activity that cumulatively impacts 75% or more of a site, with cumulative impact considered for all development permitted on June 1, 2023 or later, shall fully comply with green area requirements.

b. Proportional Compliance

The following development activities qualify for proportional compliance with green area requirements when a site retains an existing principal building and when there is less than 75% cumulative disturbance of the site area:

- i. Construction of an additional principal structure.
- ii. Expansion of an existing principal structure.
- iii. Removal and replacement of an existing structure.
- iv. Expansion of existing built-upon area.
- v. Any combination of items i through iv above.

Sites qualifying for proportional compliance shall provide, at a minimum, the same percentage of the required green area as the percentage of the site being disturbed by the subject development activity.

Tier 3 and Tier 4 sites, per Table 20-4 below, eligible for proportional compliance per this section may also meet the green area requirements of this section through Tier 1 Green Area Credit options per Table 20-5 (below) upon a determination by the Chief Urban Forester that compliance cannot otherwise feasibly be achieved via the Green Area Credit options provided to the site by its assigned Tier. The determination of the Chief Urban Forester shall be pursuant to the provisions of the Charlotte Tree Manual.

3. Exemptions

The following are exempt from the requirements of this section as specified below:

- a. Increases in built-upon area (BUA) or building coverage on lots where the existing principal structure is a single-family detached home, duplex, triplex or quadraplex.

- b. Construction of a new single-family detached home, duplex, triplex, or quadraplex as a principal structure on a single lot, unless such construction is any of the following:
 - i. Part of an approval of a new standard subdivision as defined by Section 30.3.A or approval of a minor subdivision as defined by Section 30.3.D,
 - ii. Constructed on three or more contiguous/adjacent lots, or
 - iii. Part of a multi-dwelling development.
- c. Public infrastructure projects such as road expansion, public utility projects, and greenway trail construction, undertaken by public entities unless such projects include increased building coverage or parking lot expansion.

Where public infrastructure projects are exempt from this section, but impact existing trees required or protected by Sections 20.14 through 20.17 or by legacy versions of the Charlotte Tree Ordinance, such projects shall be subject to interdepartmental or interagency agreements and land development standards pursuant to the Charlotte Tree Manual.

B. Standards by Tier

Green area, perimeter planting and internal planting requirements are differentiated by Place Type as designated within the four tiers established within Table 20-4 below:

Table 20-4: Tier Assignment of Place Types			
Tier 1 Place Types	Tier 2 Place Types	Tier 3 Place Types	Tier 4 Place Types
Regional Activity Center Place Type	Manufacturing and Logistics Place Type	Neighborhood 2 Place Type - All zoning districts other than N2-C Zoning District	Neighborhood 1 Place Type Parks and Preserves Place Type
Community Activity Center Place Type	Neighborhood Activity Center Place Type		
Campus Place Type - If zoned IC-2 or RC Zoning District	Commercial Place Type		
	Innovation Mixed-Use Place Type		
	Neighborhood 2 Place Type – If zoned N2-C Zoning District	Campus Place Type - All zoning districts other than IC-2 or RC Zoning District	

C. Required Green Area

15% or more of a development site that is subject to the applicability of this section shall be green area to be credited as provided for in Table 20-5 Green Area Credits.

D. Green Area Credits

The standards and methods for calculating required green area for sites shall be as follows:

1. Green area credits shall be used to achieve the required 15% green area pursuant to item B above. Green area credits are based on the corresponding multipliers for each credit and found in Table 20-5.
2. The process for calculating a property's green area credit shall be as follows:
 - a. The area of each green area credit is multiplied by its corresponding multiplier.
 - b. The resulting green area credits are added together.
 - c. The sum of these green area credits is then divided by the total land area of the development site to determine the green area percentage, which shall constitute at least 15% of the site per item B above.
3. All Green Area Credits shall comply with technical standards per the Charlotte Tree Manual.
4. **Green Area Method for Calculation**
 - a. Square footage for existing and dedicated street rights-of-way, railroad rights-of-way and utility easements and for existing ponds and lakes shall be subtracted from the total site area before the required percent of the green area is calculated.
 - b. Land clearing and inert debris (LCID) landfills may also be subtracted from the total site area subject to the following:
 - i. The landfill has a current permit from the N.C. Division of Waste Management, Solid Waste Division or has been decommissioned and the planting of trees on the landfill area is not recommended nor feasible.
 - ii. The property on which the landfill is located is not included in site calculations for any standards included in the UDO.
 - iii. The landfill area shall not be used to meet open space, parking, or stormwater requirements.
 - iv. No buildings shall be located on the landfill area.

Table 20-5 Green Area Credits				
Green Area Credits	Multipliers			
	Tier 1	Tier 2	Tier 3	Tier 4
Tree save - Preservation of existing on-site contiguous tree canopy (See Section 20.15.0)1	1	1	1	1
Replanted Tree Save- Planting trees at 36 trees per acre - where less than 15% of the site has existing trees	1	1	1	1
Replanted Tree Save Mitigation- Replanting trees at 36 trees per acre to replace trees that were removed	1	.067	See footnote 2	See footnote 2
Land donation to the City's Tree Canopy Preservation Program (TCPP), both on-site or off-site, per site requirements in the Charlotte Tree Manual	1.25	1.25	1.25	1.25
Land dedication to Mecklenburg County Park and Recreation (See Section 20.15.F) 3				1
Green roof /terrace - planted over at least 2 inches but less than 4 inches of growth medium	0.5	0.25		
Green roof /terrace - planted over at least 4 inches but less than 8 inches of growth medium	0.75	0.5		
Green roof /terrace - planted over at least 8 inches of growth medium	1	0.75		
Green walls (not to exceed 50% of green area credits)	0.5	0.25		
Off-site mitigation (See Section 20.15.H) 4	1	0.67		
Amenitized tree areas (See Section 20.15.1)	1	0.67		
Payment-in-Lieu (See Section 20.15.G) 4	1	0.5		
High-Quality Tree Incentives				
Preservation of specimen or heritage trees (calculated by drip line)	2	2	2	2
Preservation of existing on-site tree canopy contiguous with existing tree save or conservation agreement areas on adjacent property	1.25	1.25	1.25	1.25
Preservation of existing on-site tree canopy contiguous with intermittent and perennial streams 5	1.25	1.25	1.25	1.25
Preservation of existing on-site tree canopy on steep slope in excess of 33%	1.25	1.25	1.25	1.25

¹The Chief Urban Forester may approve preservation of non-contiguous fragments to meet the requirements of this section per the Charlotte Tree Manual, where the preservation of these existing trees would better meet the intent of this Ordinance.

²In Tier 3 and Tier 4, as part of the required green area, the removal of existing trees may only be approved by the Chief Urban Forester pursuant to the Charlotte Tree Manual's Green Area Guideline when the tree and critical root zone are located within the buildable area where a site improvement and/or City-required structure will be placed and there is no other reasonable location, and/or preservation would unreasonably restrict use of and/or access to the property. The area of existing trees removed shall be replanted with trees at 150% of the area removed at 36 trees per acre.

³Only permitted for residential development in N1-A, N1-B, N1-C, N1-D, and N1-E subject to the applicability of this section.

⁴Payment-in-Lieu and off-site mitigation may not be used in combination to meet the requirements of this section.

⁵Intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the Tree Planting and Green Area Plan along with all areas where this green area option is to be used.

E. Tree Save Standards

The following standards shall apply to all tree save areas within the required green area.

- 1.** Tree save areas shall be free of invasive plant species unless otherwise approved by the Chief Urban Forester. If an area proposed for tree save contains invasive plant species at the time of such proposal, such invasive plant species shall be removed prior to final plat approval for subdivisions. If there is no final plat for a project, the invasive plant species shall be removed prior to the issuance of the final certificate of occupancy. Invasive plant species are considered removed if they are no longer living in or under the tree canopy. Property owners are required to maintain this condition for compliance with this section.
- 2.** Pursuant to the Charlotte Tree Manual, any alterations to the tree save area in Tier 3 and Tier 4 Place Types shall be accomplished without mechanized tools and vehicular equipment and made of organic, environmentally friendly materials, unless otherwise approved by the Chief Urban Forester. For sites located in Tier 1 or Tier 2 Place Types, alterations to the tree save area do not have to meet the above standard. However, if alterations are made or amenities are added, these changes shall be made in a manner that is not detrimental to the saved trees or their critical root zone. Alterations and addition of any amenities shall be approved by the Chief Urban Forester.
- 3.** Any tree save area less than 30 feet in width shall be delineated on site with boundary and property lines by a licensed surveyor prior to the first submittal of plans.
- 4.** No structure shall be allowed within ten feet of the tree save area. A building restriction note shall be indicated on the record plat pursuant to the Charlotte Tree Manual. For sites located in Tier 1 or Tier 2 Place Types, the ten foot building restriction may be counted toward the tree save area requirement as long as this area continuously and directly abuts a tree save area and remains pervious. However, regulatory trees may not be planted within this ten foot building restriction area.
- 5.** Tree save areas shall be free of all structures and utilities. Additional amenity elements including, but not limited to, benches, trails, gazebos, sheds, fences, may be permitted by the Chief Urban Forester pursuant to the Charlotte Tree Manual.
- 6.** Tree save areas may include areas dedicated to Mecklenburg County Park and Recreation for greenways or parks or the City of Charlotte for the Tree Canopy Preservation Program, Urban Arboretum Trail, or other City trail projects. Dedicated tree save areas may include passive use recreation areas and additional amenity elements per Section 20.15.E.5 and per special agreement between the City and Mecklenburg County Park and Recreation. Greenway placement, trail placement, park design, and final location of all amenity elements shall be coordinated with the Chief Urban Forester pursuant to the Charlotte Tree Manual so that the effective tree save area required is achieved and maintained.
- 7.** Tree save areas on sites in Tier 1, 2, and 3 Place Types or nonresidential sites in Tier 4 Place Types may include existing tree canopy which overhangs existing underground water, sewer, or storm water utility easements based upon adherence to the Charlotte Tree Manual and approval by the Chief Urban Forester.

8. Tree save areas may include the planting of small maturing trees in accordance with Duke Energy's, or its successor's, approved planting list, within 25 feet of power distribution lines. This allowance shall only be granted where planting is in adherence with the Charlotte Tree Manual and approved by the Chief Urban Forester.

9. In local historic districts designated by a Historic District Overlay (Section 14.2) and Neighborhood Character Overlay Districts as designated by a Neighborhood Character Overlay (Section 14.3), the requirements of overlay districts apply in addition to the regulations of this section.

10. Tree Save Standards Overlap

The following may be located within tree save areas when they meet minimum requirements for this article and the articles listed below:

- a.** 50% of the open space per Article 16 may be tree save areas per Article 20, so long as such tree save area abuts the remaining required open space and includes allowed amenities to provide passive recreation.
- b.** Landscape yards per Article 20 if trees planted or preserved are in addition to minimum tree save requirements.
- c.** Water supply water quality buffers per Article 23.
- d.** Post-construction water quality buffers per Article 25.
- e.** SWIM water quality buffers per Article 26
- f.** Floodplains per Article 27.
- g.** Areas for greenways or parks per Article 32 offered for dedication and accepted by Mecklenburg County Park and Recreation.

11. The following additional standards apply only to tree save areas for single-family, duplex, triplex, and quadraplex residential development subject to approval of a new standard subdivision as defined by Article 30.3.A or approval of a minor subdivision as defined by Section 30.3.D.

a. Additional Trees- Canopy Voids

In instances where tree save is used to meet green area requirements, where groups of trees within a tree save area have gaps that are not expected to fill in with time, as determined by the Chief Urban Forester, additional trees shall be planted for the entire area to qualify as tree save area, pursuant to approval by the Chief Urban Forester. If root disturbance or construction activities occur within the drip line of any tree designated as protected in the tree protection plan, only the area being protected shall be included in the calculated tree save area.

b. Criteria for New Trees

New trees planted in common open spaces to satisfy the requisite tree save area requirement shall be at least 0.75 inch caliper shade trees. New trees planted within individual lots to satisfy the requirement shall be at least 1.50 inch caliper trees.

F. Land Dedication to Mecklenburg County Park and Recreation

As a green area credit option for required green area, the property owner may select one of the following options:

1. Dedicate 1/3 of land required for green area to Mecklenburg County Park and Recreation (Park and Recreation) for park development, so long as the land meets Park and Recreation standards and is accepted by Park and Recreation. If selecting this option, and dedicating 1/3 of the land required for green area, a reduction in minimum lot size by 5% would be allowed. This land shall be subject to special agreement between the City and Park and Recreation.
2. Dedicate all land required for green area to Mecklenburg County Park and Recreation (Park and Recreation) for park development, so long as the land meets Park and Recreation standards and is accepted by Park and Recreation. If selecting this option, and dedicating all of the land required for green area, a reduction in minimum lot size by 10% would be allowed. This land shall be subject to special agreement between the City and Park and Recreation, which shall preserve 2/3 of the land as on-site tree save. Park land and tree save shall be abutting.

G. Payment-In-Lieu

A payment may be made by a developer or a property owner to a City administered tree preservation account, per item 1 below. The payment shall be a percentage of the tax value of the land being developed pursuant to Section 4.1 of the UDO Zoning Administration Manual. The tax value of the land being developed shall not exceed 90% of the average tax value of land in the City limits and of the ETJ, excluding the land within the boundaries of 1-77/1-277 and in accordance with the Charlotte Tree Manual. The City shall update the average tax value of the land for this formula with each County property revaluation. Payment-in-lieu may be used for a portion of the required 15% green area or the entire required green area in accordance with the requirements of this section.

1. Collected monies from the green area payment-in-lieu process per this item shall be deposited into the account, or its equivalent, in the City's financial system as established in Section 20.18.D.1.a.

H. Off-Site Mitigation

An applicant may convey or protect, at no cost to the City, an amount of land equal to the required green area acreage, or a portion thereof, within the City or ETJ, to a land conservation group or the City, for the purpose of preserving off-site tree canopy to meet the requirements of this section, per Table 20-5. Mitigation shall be:

1. Approved by the Chief Urban Forester.
2. In compliance with the Charlotte Tree Manual.

I. Amenitized Tree Area

Amenitized tree areas shall be subject to the following requirements:

1. Trees shall be planted at 36 trees per acre on-site.
2. Planting areas shall be a minimum of ten feet wide.
3. No more than 25 percent of impervious paved areas will be allowed within amenitized tree areas. Gravel pathways in amenitized tree areas will be considered pervious.
4. Trees may be planted in alternative locations, such as but not limited to, rooftops, permanent planters, raised or at grade plazas, over parking decks, or other locations approved by the Chief Urban Forester. Greater than 25 percent impervious paved area may be allowed within alternative locations being used to meet the amenitized tree area requirement if minimum soil volume, amended soil, subdrainage, irrigation, planting area, and other applicable design standards per the CLDSM, Charlotte Tree Manual, or as approved by the Chief Urban Forester, are met.
5. Amenities may include, but are not limited to, irrigation, landscaping, grass, seating, pathways, and lighting or other items, as approved by the Chief Urban Forester.

6. Amenitized Tree Area Standards Overlap

The following may be located within amenitized tree areas when they meet minimum requirements for this article and the articles listed below:

- a) Open Space per Article 16.
- b) Landscape yards per Article 20.
- c) Water supply water quality buffers per Article 23.
- d) Post-construction water quality buffers per Article 25.
- e) SWIM water quality buffers per Article 26.
- f) Floodplains per Article 27.
- g) Areas for greenways or parks per Article 32 offered for dedication and accepted by Mecklenburg County Park and Recreation.

J. Trees required by this section, or protected as a condition of a previously approved development plan, which die, are missing, or are otherwise deemed unhealthy by the City, shall be removed and replaced by the property owner, normally during the next planting season which is November through March pursuant to the Charlotte Tree Manual.

Parcels that are already in compliance shall maintain that compliance with these standards. Trees of the same approved species as those existing may be used to replace dead, missing, or unhealthy trees. The property owner is required to use large maturing shade trees as replacements whenever possible. Nothing in this section is intended to impose a requirement that the property owner maintain more trees than those required for the site even if they have voluntarily done so in the past.

K. It shall be the duty of the property owner to maintain, plant, and/or replace trees required by this section. Trees shall be allowed to grow to their natural height and form. Pruning of these trees may be allowed where a tree work permit has been issued. Topping is prohibited. Property owners will not be held liable for any pruning conducted by utility providers.

Appendix D – Green Area Payment-in-lieu Fee Calculation

How to Calculate Green Area Payment-in-Lieu (PIL) Fee

1. PIL formula

- a. **Developing Site's Acreage X Site's Appraised Land Tax Value¹ X .15 or .30² = (\$ Fee**

- i. ¹ If a site's value is greater than 90% of the average value, the site qualifies to use the capped value below
ii. ² Check Table UDO Table 20-5 Green Area Credits to see which multiplier applies

2. Determine property's acreage and land tax value

- a. Go to [Charlotte Explorer](#), enter relevant Parcel ID and search, click highlighted parcel, check *Parcel Information* and *Assessment Value/Card Info* section in information panel

3. Capped value – 90% of average tax value for one (1) acre of land in Charlotte and it's extraterritorial jurisdiction (ETJ) = **\$192,626**

- a. Derived by analysis of current county property records and [2019 Revaluation](#) results

4. Multiplier – determine site's place type, consult UDO Table 20-4: Tier Assignment of Place Types to determine applicable tier, consult UDO Table 20-5: Green Area Credits to determine applicable multiplier. Tier 1 = 15% Tier 2 = 30%

Restrictions

- d. Single-family subdivision development – PIL is not available as an option
e. Combination – PIL may not be used in combination with off-site tree save
f. Payment timing – payments must be submitted prior to approved plans being released. The City may consider a 60-day maximum delayed payment agreement with customers on a case-by-case basis. Delayed payment will only be considered if customer submits information justifying the delay via a letter of agreement with the Chief Urban Forester. If delayed payment is granted, no site work or tree disturbing activity of any kind may begin until payment is submitted. Entire payment must be submitted in one installment, multiple installments or phased payments are not permitted.

PIL Formula Examples

Example 1

- h. 1-acre PIL qualifying site with an appraised land tax value of \$175,000 opts to use the payment-in-lieu option to meet the Green Area requirement. Tier 1 Green Area Credit rate of 1 (15%) multiplier applies

1.0-acre X \$175,000 land tax value X .15 = \$26,500

Example 2

- i. 1-acre PIL qualifying site with an appraised land tax value of \$1,500,000 opts to use the payment-in-lieu option to meet the Green Area requirement. Tier 1 Green Area Credit rate of 1 (15%) multiplier applies

1.0-acre X \$192,626* land tax value X .15 = \$28,893.90

*site qualifies to use capped value due to appraised land tax value exceeding \$192,626

Example 3

- j. 1-acre PIL qualifying site with an appraised land tax value of \$1,500,000 opts to use the payment-in-lieu option to meet the Green Area requirement. Tier 2 Green Area Credit rate of 0.5 (30%) multiplier applies

1.0-acre X \$192,626* land tax value X .30 = \$57,787.80

*site qualifies to use capped value due to appraised land tax value exceeding \$192,626