



REQUEST FOR PROPOSAL
Street Tree Inventory Services

City of St. Louis Forestry Division
1415 N 13th Street
St. Louis, MO 63106
314-613-7200

1.0 **INFORMATION FOR RESPONDENTS**

1.1 Purpose and Intent.

This Request of Proposal (“RFP”) for Street Tree Inventory Services is issued by and through the Forestry Division of the Department of Parks, Recreation, and Forestry, on behalf of the City of St. Louis, Missouri (the “City”).

The purpose of this RFP is to solicit sealed proposals for the purpose of hiring a qualified company to provide street tree inventory services. These services will be provided to the City of St. Louis Forestry Division for the purposes of initially generating individual street tree inventories for 5 City wards included in a recently awarded Tree Resource Improvement and Maintenance (T.R.I.M) grant with the City of St. Louis Forestry Division. The deadline for these 5 completed inventories is May 1, 2013. The overall purpose of these services is to generate individual street inventories for each of the City’s 28 wards of all existing publicly owned street, median and plaza trees and available planting sites. Wards will be inventoried on a funding available basis with the entire street tree population of the City being inventoried over an extended period of time through the completion and combining of ward street tree inventories.

The intent of this RFP is to award a five (5) year contract to the respondent whose proposal, conforming to this RFP, is most advantageous to the City with price and other factors considered. The City reserves the right to award the contract(s) resulting from this RFP to one or more respondents, as required and appropriate to meet the needs of the City.

1.2 Background

The benefits of a street tree inventory are significant and irreplaceable. The City of St. Louis currently lacks a current street tree inventory. The Forestry Division recognizes the lack of a street tree inventory places the City of St. Louis in a position of reduced capacity to fully develop, capitalize upon, and utilize its street tree population as a powerful tool in the creation and provision of aesthetic and environmental benefits. These benefits create a more sustainable and livable City. A street tree inventory is a powerful and indispensable urban forest management tool that guides the development of a sustainable, diverse and healthy street tree population. The Forestry Division understands the importance of a street tree inventory as a forest management resource and Ordinance 68607 authorizes the Commissioner of Forestry to prepare a street tree inventory. A street tree inventory will be used by the Forestry Division to analyze the species, size and health compositions of the City’s existing street tree population. This information will be used to direct street tree planting and street tree maintenance operations, guide response efforts to destructive diseases and insect pests, assist in emergency management and response and provide information on the composition, distribution, benefits and value of the inventoried population. A street tree inventory is a foundational component of and will also assist the Forestry Division in the development and preparation of a master street tree planting and maintenance plan as provided for in Ordinance 68607.

The City of St. Louis is 61.37 square miles in size and has approximately 1,100 miles of paved surface streets. The Forestry Division estimates the street tree population of the City to be approximately 90,000 sites consisting of existing street trees and available planting sites. The City consists of 28 Wards. Wards will be inventoried individually on a funding provided basis and subsequently combined and maintained by the Forestry Division to generate a city street tree

inventory. All trees located in the tree lawn (street easement) along public streets are to be inventoried. A majority of streets have a clearly defined tree lawn delineated by a sidewalk. However this is not always the case and a tree lawn may exist even though a sidewalk is absent or if the sidewalk is present it may not delineate the tree lawn. A width of walk book will be provided by the Forestry Division. City owned trees located in medians and plazas will also be inventoried.

The selected company will perform street tree inventory services at the request of the Forestry Division as funding is allocated to inventory the street trees in a particular ward. Street tree inventory services provided by the selected company are to include: 1) technical assistance in the development of inventory methodology and processes, data collection, data analysis; 2) placement and presentation of the collected inventory data in a format and/or software that is immediately useable and maintainable by the Forestry Division; 3) preparation of inventory reports for completed wards; 4) preparation of assessment inventory data with i-Tree Streets with accompanying report for completed wards; and 5) assistance with routine inventory maintenance and emergency maintenance during a catastrophic loss event.

Street tree inventory data is to be collected in the manner prescribed by the Forestry Division. Specific street tree inventory requirements and specifications required by the Forestry Division are found in Attachment A. The selected company must have the ability to comply with these requirements and specifications and partner effectively with the Forestry Division. The selected company will be required to establish and modify the inventory methodology and processes as needed in partnership with the Forestry Division to effectively implement a street tree inventory for the City.

1.3 RFP Timeline.

1.3.1 Question and Answer Period.

It is the policy of the City to accept questions and inquiries regarding this RFP only via U.S. mail. Written questions shall be mailed to the attention of the following individual:

Mr. Greg Hayes
Commissioner of Forestry
1415 N. 13th Street
St. Louis, Missouri 63106
Tel: 314-613-7205

Questions must be received no later than October 26th, 2012, at 4:00 p.m. CST. The City will maintain a list of all companies requesting copies of the RFP and shall ensure that copies of all questions and responses hereto shall be made available to each entity on such list. Contact with committee members other than Greg Hayes is strictly prohibited.

Questions should be asked in consecutive order, from beginning to end, following the organization of the RFP. Each question should begin by referencing the RFP page number and section number to which it relates. The City will respond in writing to each contact and/or question. Short *procedural* inquiries may be accepted by telephone by the City and should be directed to Mr. Hayes at (314) 613-7205; however, oral explanations or instructions given over the telephone shall not be binding upon the City. Other than short procedural inquiries made by

telephone to Mr. Hayes, respondents shall **not** contact any other committee members, the City directly, in person, by telephone, facsimile, or by e-mail, concerning this RFP.

After the submission of proposals, unless requested by the City, contact with the City is limited to status inquiries only and such inquiries are only to be directed to the above-named individual. Any further contact or information about the proposal to the City or any other City official connected with this RFP will be considered an impermissible supplementation of the respondent's proposal.

1.3.2 Submission of Proposal.

In order to be considered by the Selection Committee, a respondent's proposal must be received by the City at the appropriate location by the required time. Proposals received after this deadline will not be accepted. **THE DATE, TIME AND LOCATION ARE:**

Date:	Friday, November 2, 2012
Time:	4:00 P.M. CST
Location:	City of St. Louis Forestry Division C/O Mr. Greg Hayes-Commissioner of Forestry 1415 N 13thTH ST St. Louis, MO 63106

Proposals must be labeled on the outside of the package to clearly indicate that they are in response to the **PROPOSAL FOR STREET TREE INVENTORY SERVICES**. Proposals submitted via e-mail or facsimile will not be accepted. Joint proposals will not be accepted.

Each respondent must submit **one (1) sealed, complete, ORIGINAL proposal**. Each respondent must also submit **seven (7) sealed, full, complete and exact copies** of the original. It is suggested that the respondent make and retain a copy of its proposal.

Proposals provided in any other manner are not valid and will not be considered. Proposals may be mailed or delivered personally but must be received by the point of contact or his designate as listed in this Section of this RFP by the deadline listed in this Section. Proposals received late will be returned unopened. Respondents shall assume full responsibility for timely delivery of proposals at the designated location.

1.4 Representations of Respondents

In submitting a proposal, each respondent represents that:

- 1) he or she has read and understands the RFP and that the proposal is submitted in accordance therewith;
- 2) the costs have been arrived at independently without collusion with any other person or firm for the purpose of restricting competition;
- 3) he or she has not employed or retained, paid or agreed to pay any fee, commission or percentage to any person or firm (other than a full time employee working solely for the respondent) to solicit or secure this contract.

2.0 **SCOPE OF WORK**

2.1 Background.

The City is interested in receiving sealed proposals for the purpose of hiring a qualified company(s) to provide street tree inventory services on trees located on public streets, plazas and medians for the City of St. Louis Forestry Division.

2.2 Goals and Objectives

- To create a comprehensive GIS based Street Tree Inventory for the City of St. Louis that is within the standards and specifications developed by the Forestry Division. See Attachment A attached hereto.
- To retain a qualified company to provide street tree inventory services on an as needed basis as determined by the City.
- To perform street tree inventories services with available funds. Street tree inventory services will be performed incrementally by ward as funding sources become available and the completed ward street tree inventories combined to form a complete City street tree inventory.
- To allow all qualified companies interested in providing these street tree inventory services an opportunity to do so.

2.3 Scope of Services.

The City seeks to enter into a 5 year contract with a respondent whose proposal best satisfies the performance of the following services:

- Comply with the Street Tree Inventory Program Requirements and Specifications found in Attachment A, attached hereto.
- Partner with the Forestry Division to prepare or modify, as needed, the inventory methodology and processes necessary to successfully and efficiently collect and maintain street tree inventory data for the entire City. A comprehensive written inventory methodology that standardizes and defines the data collection processes and data attributes is required prior to the start of the first inventory.
- Complete ward street tree inventories. This includes the collection of street tree inventory as specified within the assigned ward or geographical area, preparation of an inventory report, i-Tree Streets analysis and report as requested and the presentation of inventory information as required. Collected street tree inventory data is to be presented to the Forestry Division immediately at the end of data collection and in a format that is compatible with their existing GIS infrastructure and software.
- Prepare professional ward street tree inventory reports at the conclusion of data collection that, at a minimum, shall consist of data analysis and interpretation, tables and charts, narrative and illustrations and pictures. An inventory report will be required for each completed ward street tree inventory and an electronic copy along with 2 printed copies presented to the Forestry Division.
- Perform i-Tree Streets analysis of ward street tree inventory data, or combination thereof, and generate a report, as requested.
- Provide professional consultation and technical assistance, as required, to implement and develop elements of the street tree inventory in which they are providing.

- Provide street tree inventory maintenance and assessment services to the Forestry Division through the provision of technically capable and skilled staff. These services will be requested by the Forestry Division for routine inventory maintenance, as needed, and during or in the aftermath of a catastrophic tree loss generated by events such as weather, disease or insect pests to assess impacted inventoried tree populations and assist in the maintenance of street tree inventory data.
- Perform all prescribed tasks in a professional manner within the agreed upon time for such tasks and on an incremental or requested basis. Unless otherwise agreed upon or specified the ability to provide the technically capable and skilled staff to complete assigned tasks within the following parameters is required:
 - a. Street tree inventory data collection shall only occur between April 1 and October 31 unless otherwise specified or agreed upon at the start of the inventory. This period of time is known as the data collection cycle. It is anticipated that 3-7 wards will be inventoried during a data collection cycle.
 - b. Multiple Wards
The Forestry Division will not request more than 14 wards be completed during a data collection cycle. The capacity and ability to collect street tree inventory data for a maximum of 14 wards, or 2 wards every 30 days in a data collection cycle is required. Advance notice prior to the start of the data collection cycle will be provided by the Forestry Division when multiple wards are to be completed. The completion of data collection for any additional individual wards will not be required until data collection is completed as specified for the already assigned wards.
 - c. Individual Wards
The capacity and ability to complete data collection for an individual ward inventory in a maximum of 30 days is required when said services are requested during the data collection cycle. A 30 day start notice will be provided by the Forestry Division when a ward street tree inventory is to be completed in this manner with no more than 1 ward to be completed at a time. The completion of data collection for an individual ward will not be required until the completion of data collection for already assigned wards.
 - d. The capacity and ability to present street tree inventory data to the Forestry Division in the format requested within 30 days of the conclusion of data collection.
 - e. The capacity and ability to prepare and publish an inventory report in the format requested by the Forestry Division within 60 days of the conclusion of data collection.
 - f. The capacity and ability to provide a minimum of 2 technically capable and skilled staff to provide street tree inventory maintenance and assessment services within 96 hours of a such request being made by the Forestry Division in the aftermath of a weather generated catastrophic tree loss event. A 30 day notice will be provided for other type of loss events where street tree inventory maintenance and assessment services are required.
 - g. The capacity and ability to provide a technically capable and skilled staff member to assist in routine inventory maintenance as requested by the Forestry Division. These maintenance services will include the verification of removed and planted trees and the updating of inventory records. The Forestry Division will provide a 30 day notice before such services are required with typical service length expected to be between 30-120 days.

2.4 Pricing Provision.

The respondent's proposal must contain specific and detailed pricing and cost information for providing street tree inventory services. Provided price(s) shall include all labor, equipment and other performance costs.

2.5 Provided Materials

The Forestry Division will provide an aerial photo set of the entire City. Base map layers including streets, ward boundaries, building outlines and parcels will also be provided. The Forestry Division prefers inventory data be collected in an ESRI Geodatabase that it will either provide or assist in developing a geodatabase. A geodatabase is a geospatial data storage framework for ArcGIS and is compatible with any mobile device running ArcPad or ArcMobile. Use of a geodatabase is not required as long as the company is able to demonstrate the format of the data it collects can be easily and readily placed into the existing GIS infrastructure of the Forestry Division and be maintained to represent deletions and additions.

3.0 **PROPOSAL EVALUATION**

3.1 Proposal Selection Committee.

The evaluation of proposals will be performed by a Selection Committee composed of representatives of the Mayor's Office, Comptroller's Office, the Aldermanic President's Office, and the division issuing this RFP (in this case, the Forestry Division). The guidelines for the selection process are in accordance with Ordinance No. 64102 and the Regulations established by the Board of Public Service.

3.2 Selection Criteria.

The following statements should be addressed in full in preparing any response to the RFP. Each statement should be restated in bold with a detailed response immediately following, unless inclusion in an appendix is more practical. Proposals are limited to ten (10) double-spaced pages, excluding the cover letter and Appendices.

The Selection Committee will review proposals using the following criteria as a guide to determine which, if any, proposals are the most advantageous to the City's needs and which respondent is most qualified to provide the requested services:

- A. The company's willingness and ability to represent a municipality of the size and nature of the City of St. Louis.
- B. Ability of the firm to provide innovative solutions
- C. Approach to the project an any unusual problems anticipated
- D. Ability of the firm to meet statutory of ordinance requirements, and
- E. Other relevant criteria as may be developed by the OCC or the Selection Committee
- F. The qualifications and experience of the company and its personnel to perform the requested services, as specified in this RFP and within the specified time parameters.
- G. How the company will address the stated goals and objectives (Section 2.2) and the specific items identified in the scope of services (Section 2.3).
- H. The company's experiences and successes with similar street tree inventory services or street tree inventories for other municipalities. Provide detailed descriptions of three (3) or more tree inventory contracts or services. Include any specifics regarding the services provided and documented results (include a point of contact).
- I. The company's technical competence and specialized experience in the creation of and performance of street tree inventories. analyzing street tree inventory data and the preparation of inventory reports and the performance i-Tree Streets analysis and report preparation.

- J. The company's proximity to the City.
- K. The company's submittal of a minimum of three (3) references from other public entities, municipalities or private companies for which similar work has been performed within the last five (5) years.
- L. The amount of time necessary for the firm to gather or otherwise marshal the resources to begin and complete multiple and individual ward street tree inventories when requested by the Forestry Division.
- M. The retention of professional urban foresters to perform the tree inventory that are not temporary help or students. The inventory project manager must be an International Society of Arboriculture Certified Arborist.
- N. Per tree cost to conduct a GIS Based Tree Inventory.
- O. Unit cost to complete and provide a tree inventory report. An inventory report will be required for each ward tree inventory as each is completed.
- P. Unit cost complete and provide an i-Tree Street analysis and report. This service will be requested as needed.
- Q. Individual per hour cost to provide professional consultation and technical assistance as required in implementing and developing elements of the street tree inventory in which they are providing.
- R. Individual per hour cost to provide street tree inventory maintenance and assessment services.
- S. The company's level of Minority and Women's Business Enterprise (MBE/WBE) participation. The City of St. Louis is fully committed to involving M/WBE firms in meaningful roles on all consultant contracts. To that end, the City, acting through its Disadvantaged Business Enterprise (DBE) Program Office, has established a goal of 25% MBE and 5% WBE participation in connection with the contract resulting from this RFP. A copy of the City's Directory of Certified M/WBE's is available on the DBE Office website: www.mwdbe.org or by contacting the DBE Office at 314-551-5000. A M/WBE Utilization Plan form is attached to this RFP (Appendix 1).

In addition to addressing items A. through O., above, the Selection Committee requires that the following be included as part of the respondent's submitted proposal:

- T. Completed Minority and Women's Business Enterprise form (Appendix 1).
- U. Completed Unauthorized Alien Employees Affidavit (Appendix 2).
- V. Statement of the company's ability to meet all requirements of the Americans with Disability Act (ADA).
- W. Statement of the company's ability to meet all Living Wage Ordinance (Ordinance 65597) requirements.
- X. Statement of the company's ability to meet all audit requirements.
- Y. Statement of the company's ability to meet all non-discrimination requirements.
- Z. Statement of the company's pricing structure for full completion of the requirements stated in this RFP.

3.3 Reservation.

The Selection Committee reserves the right to interview, or call for a presentation from, any respondent submitting a response, as well as form additional evaluation criteria for the presentations. The Selection Committee also reserves the right to discuss the proposals with any

or all respondents. Nothing in this RFP is intended to be, nor should anything herein be construed as, an offer of engagement. A selection or designation of a successful respondent shall not be construed as an offer of engagement until and unless a contract is fully negotiated. For the contract to take effect, all applicable parties with the authority to bind the respective entity must sign the agreement.

The Selection Committee reserves the right to: 1) reject any and/or all proposals with or without cause, 2) request additional information from respondents as the City may deem necessary, 3) waive any and/or all non-material irregularities pertaining to this selection and/or the submission of responses, 4) disqualify any and/or all companies or respondents and reject any and/or all proposals for failure to comply with this RFP or to promptly provide additional requested materials or information, and 5) cancel this RFP.

After the selection of a respondent to provide street tree inventory services, the City and such respondent will endeavor to finalize a contract. If a mutually satisfactory contract is not arrived at within a reasonable period as determined by the City, in its sole discretion, the City reserves the right to terminate the selection process with that respondent and proceed to contract discussions with another respondent, or terminate the process altogether. This list of the City's rights is not all-inclusive.

4.0 **ADDITIONAL INFORMATION.**

4.1 Amended Proposals.

A respondent may submit an amended proposal before the deadline for receipt of proposals. Such amended proposals must be complete replacements for a previously submitted proposal and must be clearly identified as such in the transmittal letter. The City will not merge, collate or assemble proposal materials.

4.2 Right to Withdraw Proposal.

Respondents will be allowed to withdraw their proposals at any time prior to the deadline for receipt of proposals. The respondent must submit a written withdrawal request signed by the respondent's duly authorized representative(s) addressed to the City at the address listed in Section 1.3.2 of this RFP. Said requests must be received by the City prior to the deadline for receipt of proposals.

4.3 Revisions to this RFP.

In the event that it becomes necessary to clarify or revise this RFP, such clarification or revision will be by addendum.

All RFP addenda will be issued on the City website. To access addenda, the respondent must locate the Street Tree Inventory Services RFP at the following address:

<http://stlouis-mo.gov/government/procurement.cfm>

There are no designated dates for release of addenda. Therefore, interested respondents should check the City website on a daily basis from time of RFP issuance through RFP deadline date. It is the sole responsibility of the respondent to be knowledgeable of all addenda related to this RFP.

4.4 Respondent Responsibility.

The respondent assumes sole responsibility for the complete effort required in this RFP. No special consideration shall be given after proposals are opened because of a respondent's failure to be knowledgeable of all the requirements of this RFP. By submitting a proposal in response to this RFP, the respondent represents that it has satisfied itself, from its own investigation, of all the requirements of this RFP.

4.5 Cost Liability.

Any cost incurred by the respondent in preparation, transmittal, or presentation of any proposal or material submitted in response to this RFP, including oral presentation and demonstration if required, shall be borne solely by the respondent.

4.6 Audits.

The City of St. Louis and the City's auditors and accountants shall be afforded access during the term of any contract adopted pursuant to this RFP, and for five (5) years following termination, to all of the firm's books and records without limitation whatsoever for the purpose of conducting audits. All books and records shall be open to inspection and/or reproduction to the extent necessary to adequately permit evaluation and verification of the firm's full compliance with contract documents. In those situations where the firm's records have been generated from computerized data or records, in addition to hard copy (reports), contractor shall provide such information on disk or in a suitable alternative electronic format.

4.7 Contents of Proposals.

All materials submitted in accordance with this RFP will become and remain the property of the City and will not be returned.

All Proposals shall be considered public records, but may be deemed and treated as "closed" or "exempt" by the City, at the sole discretion of the City, pursuant to the City's understanding and interpretation of the laws of the State of Missouri. All Proposal material may be treated as open records. The City cannot guarantee confidentiality of any materials during the evaluation process or at any other time. Thus, Proposals and communications exchanged in response to this RFP should be assumed to be subject to public disclosure.

4.8 No Obligation.

This RFP in no manner obligates the City to the eventual purchase of services offered until confirmed by a fully executed written contract properly approved by the City. Progress toward this end is solely at the discretion of the City and may be terminated at any time prior to obtaining a fully executed written contract.

4.9 Termination.

This RFP may be canceled at any time and any and all proposals may be rejected, in whole or in part, when the City determines it is in its best interest.

4.10 Negotiation

The City reserves the right to negotiate contract terms with any respondent to this RFP.

4.11. Governing Law.

This RFP, and any contract with a respondent that may result, shall be governed by the laws of the State of Missouri.

4.12. Nondiscrimination.

In connection with any contract resulting from this RFP, the contractor(s) agrees that in performing any services resulting from this RFP, neither the contractor nor anyone under the contractor's control will permit discrimination against any business, employee, applicant, client or subscriber because of age, sex, race, creed, color, disability, religion, sexual orientation, national ancestry or origin.

4.13 Living Wage & Minority Participation.

The selected respondent(s) will be expected to comply with the City's Living Wage Ordinance No. 65597, and all respondents are encouraged to review this ordinance prior to making their submissions. The City is actively seeking participation by MBE and WBE firms and encourages those firms to submit proposals. The selected respondent(s) shall make a good faith effort to maximize utilization of women and minority-owned businesses (W/MBE) in all of its activities under the resulting contract and shall comply with the Mayor's Executive Order No. 28, as or any subsequent order, ordinances, or any City Rules and/or Regulations with respect to W/MBE participation.

4.14 Americans with Disabilities Act (ADA).

In connection with the furnishing of goods and services under any contract resulting from this RFP, the contractor(s) shall comply with all applicable requirements and provisions of the Americans with Disabilities Act (ADA).

4.15 Unauthorized Alien Employees.

As a condition for the award of the resulting contract, the selected respondent(s), shall, pursuant to the provisions of Sections 285.525 through 285.555 of the Revised Statutes of Missouri 2000, as amended, by sworn affidavit (attached hereto as Appendix 2) and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the resulting contract. The selected respondent(s) shall also sign an affidavit (attached hereto as Appendix 2) affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the resulting contract pursuant to the above-stated Statutes.

4.16 Subject to Appropriation.

Any contract that results from this RFP is subject to annual appropriation by the City. Any contract that results from this RFP is voidable at any time by the City if appropriation by the City for the services under the contract or agreement is not made.

4.17 Indemnification.

Each respondent, in seeking, receiving or possessing this RFP and/or in submitting a response, does release, indemnify, and hold the City and its various employees, representative and agents harmless from and against all claims and demands of any and all loss, cost, damage, or liability of whatever nature, which may be asserted against or imposed against the City as a result of

issuing this RFP, making any revisions thereto, conducting this selection process and subsequent negotiations, and making a final recommendation and/or entering into a contract.



STREET TREE INVENTORY

GENERAL REQUIREMENTS

INTRODUCTION

The benefits of a street tree inventory when properly designed, implemented and employed are incontrovertible. The lack of a street tree inventory (STI) places the City of St. Louis in a position of reduced capacity to fully develop, capitalize upon, and utilize its street tree population as a powerful tool in the creation and provision of aesthetic and environmental benefits. These benefits create a more sustainable and livable City. A STI is an indispensable urban forest management tool that when effectively implemented guides the development and creation of a sustainable, diverse and healthy street tree population. Municipalities that successfully resource their street tree inventories, not in a complementary or ancillary function, but as a central component of their urban forestry program realize the highest return in STI function and benefits. Resources to design, perform, analyze and subsequently maintain the inventory to keep its data valuable and relevant on a continuous basis are all required. A less than full commitment of STI resources can reduce the quality of the STI in general, cause delays or lengthen implementation, prevent or limit the maintenance of continuous data and create data that is degraded in its function or application. In general, the return in benefits greatly exceeds the resources required to complete a STI making this not only an essential but a smart investment for municipalities that desire to proactively manage their municipal forest in a more efficient and sustainable manner. The Forestry Division is cognizant of the need and importance of a STI and continues to work towards its implementation.

The City of St. Louis is 61.37 miles² in size, and has 1,100 miles of paved surface streets with an estimated 90,000 street tree sites consisting of either existing trees or available planting sites. The 90,000 street tree site estimate is based on a street tree inventory (STI) completed contractually in December 2000 which indicated 74,066 existing trees and 12,423 available planting sites. The 2000 STI provided valuable point in time information about the City's street tree population but due to a variety of factors it was not continuously maintained nor is it GIS compatible. Given the dynamic nature of tree populations the data collected for the 2000 STI is now considered obsolete and functional only as historical reference. The City of St. Louis at present lacks a current street tree inventory. Street tree service requests are processed and managed by the City's Citizens' Service Bureau and the Forestry Division's Customer Service Representatives using Cityworks®.

Article XIII, Section 14B of the City of St. Louis Charter establishes that the Forestry Division shall be responsible for the planting, pruning and maintenance of all city-owned trees along all public highways, streets, boulevards and parkways. The Forestry Division performs its urban forestry maintenance and management operations under the auspices of Ordinance 68607. Ordinance 68607 states that the Commissioner of Forestry shall have the authority to prepare and implement procedures, standards and specifications pertaining to the planting, pruning, removal, disease and insect treatment, protection and other necessary maintenance and management activities of all trees, shrubs and plants planted on City property. This ordinance also tasks the Commissioner of Forestry with the administrative responsibility for the preparation and implementation of a master street tree planting and maintenance plan which includes and requires an inventory of street trees.

The size and scope of the City's street tree inventory will almost certainly require a multi-year commitment with completion being effectuated through the performance of individual ward street tree inventories for each of the City's 28 wards. Completion will also most likely involve contractual assistance. Individual ward street tree inventories will then be combined to generate a final and complete street tree inventory for the City of St. Louis. Completion in this manner will delay the ability to analyze the City's street tree population as a whole until all wards are completed but represents the most practical method for a completion of a City STI and does not limit the value, benefit or importance of the data collected for each ward or the practicality of the data when combined into its larger whole. Performance of an STI in this manner will require the development of general requirements and the adherence to a defined street tree inventory methodology that generates consistent and uniform individual data and analysis that is compatible and combinable as a larger unit.



STREET TREE INVENTORY GENERAL REQUIREMENTS

PURPOSE

An effective street tree inventory requires the development and consistent application of an inventory methodology. This document is a basic street tree methodology and provides the general requirements necessary to design a complete inventory methodology. It defines and describes the STI product the Forestry Division requires and the parameters for its delivery.

GENERAL DESCRIPTION

The Forestry Division requires a GIS (geographic information system) based tree inventory consisting of geo-referenced sites consisting of existing trees and available planting sites. Each site will have attached specified data attributes with a geodatabase developed by the Forestry Division available for use. Other data sources may also be used but must have the demonstrated capacity to be readily integrated into the existing GIS infrastructure of the Forestry Division.

Ordinance 68607 defines a tree as any self-supporting woody plant having a well-defined stem, a more or less well defined crown and a mature height of greater than 12 feet and/or a trunk diameter measuring no less than 1.5 inches measured at diameter breast height, or a cluster of main stems having an aggregate diameter of not less than 2 inches in diameter measured at diameter breast height. Street tree inventory data will be collected for all existing publicly owned street, median and plaza trees meeting ordinance definition of a tree and available planting sites. Wards will be inventoried on a funding available basis with the entire street tree population the City being inventoried over an extended period time through the completion and combining of ward street tree inventories. Expected data collection time is estimated to take approximately 3-5 minutes per site.

The Forestry Division requires each site be precisely located for representation in a GIS. Individual data for each site is to be collected in a prescribed and consistent manner that will be used for analysis of species, size, health, value and maintenance needs of the inventoried tree population. The inventory shall also provide the Forestry Division with a set of tree risk management tools that includes initial hazard tree identification and risk assessment during data collection, the ability of the Forestry Division to perform ongoing hazard tree identification and risk assessment and input this information into the inventory, the prioritizing of maintenance needs and removal documentation. Maintenance recommendations shall be compatible with Forestry Division standards. The STI is designed to identify significant and serious defects and health conditions and recommend the appropriate remedial action during a very short assessment process, thus the Forestry Division understands the limits of the STI in regards to hazard tree detection. The Forestry Division requires the tree inventory also identify planting sites for new street trees. The Forestry Division will provide a list of its planting site guidelines to assist in the identification of street tree planting sites. The Forestry Division intends at a minimum to maintain the inventory to represent additions and deletions to the street tree population.



STREET TREE INVENTORY GENERAL REQUIREMENTS

TABLE 1: GENERAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Inventory Type	<p>Continuous Site – GIS</p> <ul style="list-style-type: none"> Sites consisting of existing trees and available planting sites will be inventoried and managed STI designed to be maintained immediately and continuously from first day of data collection to reflect site changes
Projected Size	<p>90,000</p> <ul style="list-style-type: none"> Existing trees plus available planting sites Project to be divided into ward street tree inventories consisting of all existing publicly owned street, median and plaza trees and available planting sites.
Inventory Methodology	<p>To be developed</p> <ul style="list-style-type: none"> Must conform to the standards set forth in the document <i>Street Tree Inventory – General Requirements</i>
Units	<p>English</p> <ul style="list-style-type: none"> Acre, Mile, Foot, Inch
Coordinate System	<p>NAD 83</p> <ul style="list-style-type: none"> North American Datum 1983
Zone	<p>MO-83E</p> <ul style="list-style-type: none"> NAD 83 Missouri State Planes, East Zone US Foot
DATUM	<p>WGS 1984</p>
Feature Reference	<p>Geo-referenced / Street Address</p> <ul style="list-style-type: none"> Geo-referenced with X, Y Coordinates
Feature Accuracy	<p>52 meter (DGPS) or 53 meter (geo-referenced)</p> <ul style="list-style-type: none"> Site shall be located accurately to the correct address with a 53 meter deviation in location at address location Sites shall be located in correct location relative to all other sites
Feature Attributes	<p>Predefined</p> <ul style="list-style-type: none"> Refer to Table 2
Data Collection Window	<p>April 1 – October 31 – unless otherwise approved</p> <ul style="list-style-type: none"> Foliage is present and greatly improving tree identification, health evaluation and assessment for maintenance needs
Data Collection Software	<p>ESRI ArcPad (ArcMobile and ArcView)</p>
Data Format	<p>ESRI Geodatabase (preferred)</p> <ul style="list-style-type: none"> The Forestry Division has placed feature attributes in a ESRI Geodatabase that is compatible with any device operating ArcPad, ArcMobile or ArcView. The Forestry Division will use this geodatabase maintain and collect STI data. Data formats verified readily compatible for use in existing Forestry Division GIS Infrastructure acceptable for data collection use with prior approval
Qualifications	<p>STI Data Collectors – professional urban foresters w/tree identification and assessment experience (unless otherwise approved)</p> <p>STI Project Manager / Data Collector Supervisor – professional urban forester w/tree inventory experience and ISA Certified Arborist</p> <p>STI Administrator – professional urban forester w/tree inventory experience and ISA Certified Arborist and ISA Certified Arborist – Municipal Specialist (preferred)</p>
Inventory Management Software	<p>ArcView – archival (site status only)</p> <p>Citynworks – primary (site status plus work associated order information)</p>
Updatability of Inventory	<p>Yes</p> <ul style="list-style-type: none"> Continuous and immediate to reflect site status
Inventory Base Map	<p>Aerial Photo w/ Layer Overlay</p> <ul style="list-style-type: none"> Layers: Aerial Photo, Streets (w/names), Buildings, Lots (w/address number), Ward Boundaries and Neighborhood Boundaries
ITree Compatibility	<p>Yes</p> <ul style="list-style-type: none"> STI data will be used to perform ITree Streets analysis



STREET TREE INVENTORY GENERAL REQUIREMENTS

TABLE 2: FEATURE ATTRIBUTES

ATTRIBUTE	TYPE	DATA SAMPLE	DESCRIPTION
1 OBJECTID	Numeric		Required by ArcGIS – AUTOMATICALLY ASSIGNED
2 SHAPE	Numeric		Required by ArcGIS – AUTOMATICALLY ASSIGNED
3 SITEID	Numeric	1016	Site identification number
4 WARD	Numeric	6	ward where site is located
5 STATUS	DDM	O = Occupied ODNR = Occupied Do Not Replace UDNR = Unoccupied Do Not Replace PS = Planting Site	<ul style="list-style-type: none"> (O) Existing Tree (ODNR) Existing Tree, but existing site features such as utilities, tree lawn width precludes future replacement – site not compliant with <i>FD Planting Standards for City Trees</i> (Pub 02) (UDNR) A ODNR site becomes a UDNR when the tree is removed (PS) Site can accommodate a new tree – site must conform to <i>FD Planting Standards for City Trees</i>
6 STREET	Text	Oleatha	Street Number (aka Address)
7 STREET_NUMBR	Numeric	5456	
8 SITETYPE	DDM	I = Island M = Median O = Other P = Park or Open Space TL = Tree Lawn TW = Tree Well TWC = Cut Tree Well RP = Raised Planter Maple, Red	
9 CMN_NME_LST	DDM	Select from Species List or Manual or Typed Entry	<p>List of common trees – common name list</p> <ul style="list-style-type: none"> Species list of common street trees to select from – or manual entry for uncommon species List also includes “S-TULIP” to denote an occupied site with a stump requiring removal <p>Manual keyed entry of trees not appearing on common name list</p> <p>Cultivar or variety of existing tree if known – not normally collected during initial data collection of existing trees but entered if known for newly planted trees</p> <ul style="list-style-type: none"> S = Spread ≤ 20ft and Height ≤ 25ft I = Spread 21-40ft and Height ≤ 50 ft L = Spread >41ft and > 50ft CS = Spread ≤ 20ft and Height ≤ 25ft CL = Spread ≤ 20ft and Height > 26ft E = Evergreen <p>Refer to <i>Planting Standards for City Trees</i> (Pub 02)</p> <p>Size class to be measured using a diameter tape, Biltmore stick (preferred) or calipers to determine size class at diameter breast height (4.5ft). On multi-stemmed trees the diameter measurement will be taken below the site of the stems if a single trunk unit is measurable if a single measurement is not possible then the aggregate measurement of the multiple trunks shall be used</p>
10 CMN_NME	Text	Autumn Blaze	
11 TREEYPE	DDM	S = Small I = Intermediate L = Large C3 = Columnar Small CL = Columnar Large E = Evergreen	
12 SIZECLASS	DDM	LT6 = less than 6 inches 7-12 = 7-12 inches 13-18 = 13-18 inches 19-24 = 19-24 inches 25-30 = 25-30 inches 31-36 = 31-36 inches GT36 = greater than 36 inches	
13 STEMS	Numeric	1	Number of stems measured to determine size class.



STREET TREE INVENTORY GENERAL REQUIREMENTS

Continued

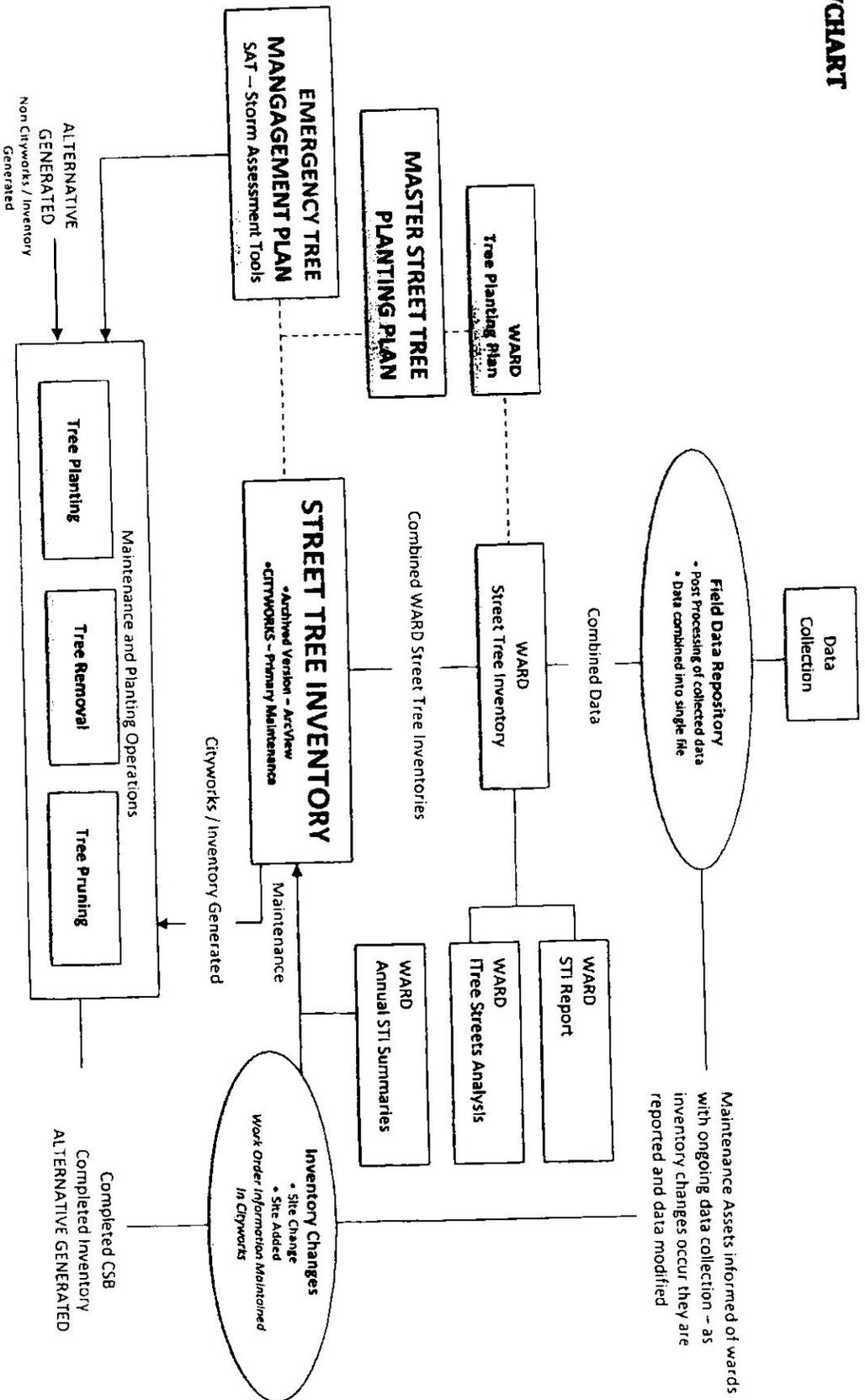
TABLE 2: FEATURE ATTRIBUTES CONTINUED

ATTRIBUTE	TYPE	DATA SAMPLE	DESCRIPTION
14 MAINT_NEEDS	DDM drop down menu BOLD = default	HR = Hazard Removal RR = Removal Recommended PH = Pruning - High Priority PL = Pruning - Low Priority EF = Evaluate Further RS = Remove Stump 3-12	SIZE CLASS = (4) >31 inches, (3) 19-30 inches, (2) 7-18 inches, (1) < 7 inches USE CLASS = (4) constant, (3) high, (2) intermediate, (1) infrequent FAILURE POTENTIAL = (4) Severe Defects, (3) Significant, (2) Moderate, (1) Minor Overhead utility lines impacting site
15 HAZRTG	Numeric	Assigned to hazard removals - used to prioritize hazard removals	
16 UTILITY_LINES	DDM drop down menu BOLD = default	No Yes	Infrastructure Rating
17 IFS_RATING	DDM drop down menu BOLD = default	A = Acceptable NDCI = No Damage - Conflict Likely NDEC = No Damage - Existing Conflict MD = Minor Damage SD = Significant Damage TD = Tree Down SDIM = Severe Damage Immediate SDP = Severe Damage Priority SD = Severe Damage HILM = Hazard Limbs Immediate HLP = Hazard Limbs Priority HL = Hazard Limbs CU = Cleanup Downed Tree CUD = Cleanup Debris Maple, Red Select from Species List	Storm Assessment Tools
18 SAT	DDM drop down menu BOLD = default		
19 C_PSPECIES_LST	DDM drop down menu BOLD = default	Common Name List - for available planting sites	
20 PSPECIES	Text	Manual keyed entry of proposed street trees not appearing on common name list	
21 PCULVAR	Text	Proposed cultivar or variety for available planting site	
22 DATE_OLE	Date	Date of last entry	
23 DOLE_BY	Text	Date of last entry by - last name of person making last change to data	
COMMENTS_PD	DDM drop down menu BOLD = default	Frank TW = Tree Walk TM = Tree Membrane NNS = No New Street Trees PNR = Planting Not Reported RNR = Removal Not Reported ST = Specimen Tree	<ul style="list-style-type: none"> • NNST = Adjacent Owner Has Requested No New Street Trees
24 COMMENTS	Text		X Coordinates Required for integration of inventory data into Cityworks
25 XCORD	Numeric		Y Coordinates Required for integration of inventory data into Cityworks
26 YCORD	Numeric		



STREET TREE INVENTORY GENERAL REQUIREMENTS

STI FLOWCHART



Maintenance Assets informed of wards with ongoing data collection - as inventory changes occur they are reported and data modified



City of St. Louis Forestry Division

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PUBLISHED 01-8-2011 - J.F.S.A.M.



NATIONAL CITY USA
The City of St. Louis is a recipient of the National City USA Award by the National City USA Foundation.

APPENDIX 1

CITY OF ST. LOUIS
MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES (M/WBE) UTILIZATION PLAN
CONTRACTING AGENCY:
PROJECT NAME:
NAME OF PRIME CONSULTANT:

PROJECT GOAL: ____% MBE; ____% WBE

The prime consultant shall utilize and require all subconsultants to utilize the maximum number of certified minority and women-owned business enterprises possible and will purchase materials and supplies from minority and women-owned business enterprises to the maximum extent feasible, and to this end, the prime consultant will inform each subconsultant of this requirement. The prime consultant shall utilize the services and/or supplies to be provided by the following certified minority and women-owned business enterprises in the execution of this contract.

FIRM NAME ADDRESS PHONE NUMBER CONTACT PERSON	CERTIFYING AGENCY CERTIFICATION DATE CATEGORY CERTIFICATION NO.	WORK TO BE PERFORMED	M/WBE PERCENT

PRIME CONSULTANT AUTHORIZED SIGNATURE

DATE

