WS
1-12-10

# City of Alexandria, Virginia

## MEMORANDUM

DATE: JANUARY 6, 2010

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER

SUBJECT: WORK SESSION ON MATERIALS (SYNTHETIC SPORTS FIELDS AND URBAN FORESTRY)

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As background for the Tuesday, January 12 work session please find attached materials.

Synthetic Sports Fields

1. Synthetic Field Comparison Study Summary Report

2. Letter from the Park and Recreation Commission

Urban Forestry

3. Docket item from April 2009 - Council Receipt of the Urban Forestry Master Plan (without attachments)

4. Urban Forestry Master Plan Executive Summary

If you would like a complete copy of the Urban Forestry Master Plan prior to the January 12 work session, please contact Jim Spengler at 703-746-5502.

# City of Alexandria, Virginia

## 2009 SYNTHETIC FIELD CONVERSION STUDY SUMMARY REPORT

### Department of Recreation, Parks & Cultural Activities

January 5, 2009

## I. BACKGROUND

In 2006, Recreation, Parks & Cultural Activities (RPCA) hired Pros Consulting to prepare the Athletic Fields Master Plan. The plan concluded that Alexandria had field shortage, that existing fields lacked the capacity to handle programming levels, and that many fields were in poor condition. As one solution, the Master Plan recommended conversion of some fields to synthetic turf.

In Fall 2007, RPCA studied fields that were candidates for conversion to synthetic turf. The study yielded a five-year conversion strategy that was presented to the Youth Sports Advisory Board and the Park & Recreation Commission. Since that time, conditions and priorities have changed. The purpose of the 2009 study is to update the 2007 study by refining the criteria on which the fields are judged.

## II. METHODOLOGY

Inventory & Analysis. In preparation for this study, the Department underwent a detailed inventory and analysis of existing conditions. The inventory defined the difference between "fields" and "overlays," and established criteria for judging field conditions and the facilities that house them. Using the inventory, a geographic analysis was performed to determine where the best facilities were located and if there were any underserved areas of the City.

Fields Considered for Conversion. Based on needs of the City, staff determined that only fields that could accommodate a 320' x 185' play surface would be considered[1]. However, if a field was already converted or was exclusively used as a diamond or open space, it was not considered even if it met the size requirement. The following fields were considered based on this standard: Braddock, Ben Brenman, George Washington 1 & 2, Hammond Upper & Lower, Hensley, Patrick Henry, John Adams, Ramsay, Stevenson, Lee Center, George Mason, and Boothe[2].

[1] These dimensions include a regulation soccer field (300' x 165') with 10' of run-out on each side.

[2] Four Mile Run and Potomac Yard were not included even though they met the size requirement. At Four Mile, this is due to the City's 2008 investment in the natural turf at this location and restrictions on active use in Four Mile Run's Resource Protection Area. Potomac Yard was not included because development of these fields depends on coordination with private development.

Weighted Criteria. Based on collaboration from the Park & Recreation Commission, Park Maintenance and Operations Division, Recreation Services and Park Planning, nine weighted criteria were established for evaluating the fields. These criteria are (1) size, (2) direct fiscal impact, (3) process, (4) impact to an existing use, (5) location, (6) field condition, (7) public access & site amenities, (8) indirect fiscal impact and (9) constructability. Weights for each criterion are reflective of City and departmental goals. In order to capture different viewpoints and to test the validity of the matrix, staff developed four weighting strategies. The four matrices in the "Findings" section below each reflect a different weighting strategy.

Scoring. For each criterion, fields were scored on a scale of 1 - 3 with 1 being the least favorable condition and 3 being the most favorable. The total score for each field was calculated by multiplying the weight times the score, then adding these values for all nine criteria. Criteria scores remain the same across each matrix, while totals vary depending upon the weighting strategy.

## III. FINDINGS

The results, shown below, were calculated for four matrices using different weighting strategies. Ben Brenman and Hammond Upper rose to the top in all four matrices while John Adams and George Mason were consistently at the bottom. Those in the middle fluctuated based on the weighting strategy. Staff recommends the weights and resulting scores from Matrix 4 (far right) as the most representative of the City's priorities (See full detailed scores from Matrix 4 in attached document).

| | Matrix 1: 8,8,8,4 | Score |
|---|---|---|
| 1 | Brenman | 2.46 |
| 2 | Hammond Upper | 2.44 |
| 3 | Hammond Lower | 2.32 |
| 4 | George Washington 1 | 2.22 |
| 5 | Braddock | 2.12 |
| 6 | Hensley* | 2.10 |
| 7 | Boothe | 2.07 |
| 8 | Patrick Henry | 2.00 |
| 9 | Stevenson | 1.98 |
| 10 | Lee Center | 1.93 |
| 11 | Ramsay | 1.88 |
| 12 | George Washington 2 | 1.83 |
| 13 | John Adams | 1.80 |
| 14 | George Mason | 1.44 |

| Matrix 2: 6,8,8,8 | Score |
|---|---|
| Brenman | 2.49 |
| Hammond Upper | 2.47 |
| Hammond Lower | 2.35 |
| George Washington 1 | 2.26 |
| Hensley* | 2.23 |
| Patrick Henry | 2.14 |
| Braddock | 2.07 |
| Stevenson | 2.02 |
| Boothe | 1.98 |
| Lee Center | 1.98 |
| George Washington 2 | 1.98 |
| Ramsay | 1.93 |
| John Adams | 1.77 |
| George Mason | 1.51 |

| Matrix 3: 4,8,6,8 | Score |
|---|---|
| Brenman | 2.54 |
| Hammond Upper | 2.46 |
| George Washington 1 | 2.28 |
| Hammond Lower | 2.28 |
| Hensley* | 2.26 |
| Patrick Henry | 2.21 |
| George Washington 2 | 2.08 |
| Stevenson | 2.08 |
| Braddock | 2.08 |
| Lee Center | 2.08 |
| Boothe | 2.03 |
| Ramsay | 1.92 |
| John Adams | 1.79 |
| George Mason | 1.56 |

| Matrix 4: 4,10,8,10 | Score |
|---|---|
| Brenman | 2.51 |
| Hammond Upper | 2.49 |
| George Washington 1 | 2.29 |
| Hammond Lower | 2.29 |
| Hensley* | 2.27 |
| Patrick Henry | 2.22 |
| George Washington 2 | 2.11 |
| Stevenson | 2.07 |
| Lee Center | 2.07 |
| Ramsay | 2.07 |
| Braddock | 2.02 |
| Boothe | 1.98 |
| John Adams | 1.78 |
| George Mason | 1.58 |

## IV. STAFF ACTIONS

On October 15, 2009 at a Park & Recreation Commission public hearing, staff recommended Ben Brenman as the next field for conversion. The Commission directed staff to move forward on the design and engineering drawings of Brenman field. The Department is using the City's Engineer of Record with significant athletic field work to develop the grading and plot plan for Ben Brenman. Lights will require a special use permit.

## 2009 Synthetic Fields Conversion Matrix (Recommended Matrix 4)

| Criteria | Size | Direct Fiscal Impact | Process | Impact to an Existing Use | Location | Field Condition | Public Access & Site Amenities | Indirect Fiscal Impact | Constructability | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 0.0889 | 0.2222 | 0.1778 | 0.2222 | 0.0889 | 0.0889 | 0.0444 | 0.0444 | 0.0222 | 1.00 |
| | | | | | | | | | | |
| Braddock | 3 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 3 | |
| | 0.27 | 0.44 | 0.18 | 0.44 | 0.18 | 0.27 | 0.09 | 0.09 | 0.07 | 2.02 |
| Brenman | 3 | 3 | 1 | 3 | 3 | 2 | 3 | 2 | 3 | |
| | 0.27 | 0.67 | 0.18 | 0.67 | 0.27 | 0.18 | 0.13 | 0.09 | 0.07 | 2.51 |
| Boothe | 2 | 3 | 1 | 1 | 3 | 2 | 3 | 2 | 3 | |
| | 0.18 | 0.67 | 0.18 | 0.22 | 0.27 | 0.18 | 0.13 | 0.09 | 0.07 | 1.98 |
| George Mason | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | |
| | 0.09 | 0.44 | 0.18 | 0.44 | 0.09 | 0.18 | 0.09 | 0.04 | 0.02 | 1.58 |
| George Washington 1 | 3 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 3 | |
| | 0.27 | 0.67 | 0.18 | 0.67 | 0.18 | 0.09 | 0.09 | 0.09 | 0.07 | 2.29 |
| George Washington 2 | 1 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 3 | |
| | 0.09 | 0.67 | 0.18 | 0.67 | 0.18 | 0.09 | 0.09 | 0.09 | 0.07 | 2.11 |
| Hammond Lower | 3 | 1 | 3 | 3 | 1 | 3 | 2 | 3 | 1 | |
| | 0.27 | 0.22 | 0.53 | 0.67 | 0.09 | 0.27 | 0.09 | 0.13 | 0.02 | 2.29 |
| Hammond Upper | 3 | 3 | 2 | 3 | 1 | 3 | 1 | 2 | 2 | |
| | 0.27 | 0.67 | 0.36 | 0.67 | 0.09 | 0.27 | 0.04 | 0.09 | 0.04 | 2.49 |
| Hensley* | 1 | 1 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | |
| | 0.09 | 0.22 | 0.53 | 0.67 | 0.27 | 0.18 | 0.13 | 0.13 | 0.04 | 2.27 |
| John Adams | 1 | 2 | 2 | 1 | 2 | 3 | 2 | 2 | 2 | |
| | 0.09 | 0.44 | 0.36 | 0.22 | 0.18 | 0.27 | 0.09 | 0.09 | 0.04 | 1.78 |
| Lee Center | 1 | 3 | 1 | 2 | 2 | 3 | 2 | 2 | 3 | |
| | 0.09 | 0.67 | 0.18 | 0.44 | 0.18 | 0.27 | 0.09 | 0.09 | 0.07 | 2.07 |
| Patrick Henry | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | |
| | 0.09 | 0.44 | 0.36 | 0.67 | 0.18 | 0.27 | 0.09 | 0.09 | 0.04 | 2.22 |
| Ramsay | 1 | 1 | 3 | 2 | 2 | 3 | 2 | 2 | 1 | |
| | 0.09 | 0.22 | 0.53 | 0.44 | 0.18 | 0.27 | 0.09 | 0.09 | 0.02 | 1.93 |
| Stevenson | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | |
| | 0.09 | 0.44 | 0.36 | 0.44 | 0.27 | 0.27 | 0.09 | 0.09 | 0.02 | 2.07 |
| Potomac Yard 1&2 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 3 | 2 | |
| | 0.27 | 0.44 | 0.53 | 0.67 | 0.27 | 0.09 | 0.13 | 0.13 | 0.04 | 2.58 |

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DEPARTMENT OF RECREATION, PARKS
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# Park and Recreation Commission

January 3, 2010

The Honorable William Euille
Vice Mayor Kerry Donley
Councilman Frank H. Fannon IV
Councilwoman Alicia Hughes
Councilman K. Rob Krupicka
Councilwoman Redella S. Pepper
Councilman Paul C. Smedberg

Re: 2009 Synthetic Field Conversion Study & Ben Brenman Field Conversion and Lighting

Dear Mayor and Council Members:

At our October 2009 monthly meeting the Park and Recreation Commission addressed the continuing challenge of providing athletic fields of sufficient quantity and quality to meet the current and growing demand for field sports by both the youth and adults in our community. The Commission feels that addressing this shortfall is an important public health goal for all ages as well as a critical objective in providing positive opportunities for the youth of our community.

As you are aware, the Department of Recreation, Parks and Cultural Affairs (RPCA) along with the Park and Recreation Commission completed an Athletic Fields Master Plan which was adopted by City Council in 2006. The Master Plan pointed out that the Alexandria had a severe shortage in athletic fields, that existing fields lacked the capacity to handle programming levels, and that many fields were in poor condition. As prime solution, the Master Plan recommended conversion of some fields to synthetic turf, allowing more games to be played on our existing limited number of fields. In the years since the City Council has undertaken funding these recommendations. The first two synthetic fields have been successfully installed and are in full use at Minnie Howard and Ft. Ward Park.

At the direction of the Commission RPCA staff undertook to update the information and field conversion assessment tools over the summer months following the adoption of the 2010 budget which allocated funding sufficient for the conversation and lighting of one existing grass field somewhere in the City. Staff gave a presentation to the Commission and the public at our October meeting. The presentation also included the staff recommendation that the next field in line for conversion is at Ben Brenman Park. Following the presentation and staff recommendation the Commission conducted a public hearing on both the 2009 Synthetic Field Conversion Study - its content, conclusions and plan for future conversions – along with the public comment on the staff recommendation for the next field conversion occurring at Ben Brenman.

To generalize, both the people who commented and the Commissioners felt the RCPA staff had done an excellent job of further clarifying and reinforcing the criteria and logic for the sequence of recommended field conversations. The Commission later voted unanimously to support and adopt the 2009 Synthetic Field Conversion Study, which has now been transmitted to you. While the process outlined in the Study is fairly rigorous it can be summed up into several key points. First, fields targeted for conversion should be of a size that will accommodate multiple field sports played at competitive level, that is to say that the fields be large enough to "count" the games played on them toward league standings. In doing so these fields then are also large enough to be divided at the midpoint to accommodate two practice sessions at once, particularly for younger children, serving double-duty on some days. Second, all fields that are converted must also be able to accommodate night-time lighting. The addition of lights extends the play by up two games into the evening, depending on the time of year. As most of our youth sports are coached by parents and volunteers with other employment, practices and games not associated with schools most often cannot commence until after the work day when coaches can arrive, and are not dependant on when children are

finished with school. As the majority of youth and sports they play are not affiliated with school programs, the fall and spring practices and games are severely limited on fields without lights. Investing in artificial turf on fields where the installation of lights is not possible is not a good investment, particularly at this time of limited financial resources.

During the portion of our hearing associated with the recommendation to convert and light at Ben Brenman Park, a couple speakers raised concerns about the night-time artificial lights and the effect on the proximal neighborhood. In order to address potential concerns staff had previously advertised and led a field trip for the Ben Brenman neighbors and the public to observe the lighting conditions after dark at Ft. Ward Park. In the case of Ft. Ward and Minnie Howard fields the City has installed the new generation of "full cut-off lights" which meet the criteria for limited light pollution under LEED green building guidelines and meet Dark Sky Compliance guidelines. Simply put, the light is focused and stays on the field with virtually no spill-over into even immediately adjacent areas. The effect on the surrounding neighborhoods has been tremendously limited as compared to field lights of even ten years ago, some of which are still in place in other locations in the City.

While the majority of speakers supported the next field conversion occurring at Ben Brenman, several neighbors raised concerns primarily about the impact of increased field use on parking. Dak Harwich, representing Cameron Station Homeowner's Association, indicated that while the Association was generally not opposed to lights and artificial turf conversion at Ben Brenman Park they were concerned about the parking around Ben Brenman Park and the potential this field conversion might have to make the situation worse. He indicated they feel there is not enough parking at Ben Brenman Park currently, which is already pushing people to park in the neighborhood.

While pointing out that with the conversion and lights there would not be more games played at any one time, just that the hours of play would be extended, the Commission did address parking concerns by asking staff to take a look at the current and future parking use inside and outside the park as part of the planning for this project, in order to understand the extent of the problem and what might be done to address it. The Commission also strongly indicated that they would not support converting any additional green, open space in the park to parking and asked staff to develop other recommendations and solutions if parking needs to be addressed.

After the hearing, along with endorsing the findings of the Field Study, the Commission also endorsed the staff recommendation that Ben Brenman be the location of the next conversion to artificial turf and lights. This vote was the only approval necessary for the conversion to turf to occur, but in order to install lights a Special Use Permit will be required. And here we would point out that under this plan lights are to be installed both on the rectangular field that will receive the artificial turf and on the existing baseball diamond as well. There is economy in undertaking lighting both of these areas in the park at the same time.

The construction period for this project, or any field conversation project, is limited to the June – August timeframe and the Commission instructed staff to begin immediately with the project planning and start the SUP process in order to begin construction in June and have the field and lights in place by September of 2010. We are pleased to report that staff is making tremendous progress in this regard. Most critical to note at this time, an engineering firm has been hired and is working to assemble the information necessary to meet a February filing of the SUP application so that public hearings and necessary approvals can occur in May, the latest date for these actions that will accommodate field construction in 2010.

The process staff has undertaken is outlined below:

**General Update-Design/Engineering Consultant:**

- Staff has solicited a scope of work, selecting the team of AMEC/Kimley Horn(KHI) as the design consultant based on significant experience with similar athletic facilities throughout the mid-Atlantic and is in excellent professional standing with the City.

**Scope of Work Includes:**

- Amendment of site survey information using existing data.
- Geotechnical investigation/analysis/recommendations.
- Site design and engineering including utilities dedicated to replacement of the natural grass field with a synthetic infill turf system field.
- Electrical engineering for athletic field lights and supporting site electrical system as related to replacement of the existing rectangular field and provision of lights at the existing diamond field and play area southeast of the park office/restroom building.

**Design/Engineering Approval Process:**

- As a field replacement, the consultant is preparing engineering documents that will be administratively processed as a Grading/Plot Plan. The documents include environmental considerations for stormwater quality and quantity. Grading/Plot Plans do not require approval by Planning Commission or City Council and takes approximately 10-12 weeks to process internally.
- A Special Use Permit will be required for the athletic field lights and necessitates approval by Planning Commission and City Council. The consultant is providing information to support application for the Special Use Permit, which

will be developed/processed by RPCA staff in coordination with other City departments. There is a 90 day advance filing deadline, so a public hearing and approval in May will require filing an application in February 2010.

**Anticipated Schedule:**

- AMEC/KHI is initially amending existing survey data and performing geotechnical investigations. Survey work is proceeding with crews verifying field data using typical site collection methods that are non-invasive and do not cause site disturbance. The geotechnical investigation necessitates that test borings be taken adjacent to the little league and rectangular fields for light pole foundations, and within the rectangular field for field engineering design. The borings are being performed using methods that limit site disturbance with minimal impact/if-any on park activities. Affected areas are being fully restored to match conditions prior to disturbance.
- 90 days lead time is required for application for the Special Use Permit; therefore staff is scheduling application in January/February, 2010 in anticipation of an April/May, 2010 hearing schedule with Planning Commission and City Council.
- Commencement of construction for the replacement field and athletic field lights remains anticipated in summer, 2010.

The Park and Recreation Commission will look forward to further discussion of the 2009 Study and field issues at your Work Session on January 12, 2010. If we can be of further assistance before then please do not hesitate to contact me.

With kind regard,

Judy R. Guse- Noritake, AIA, LEED AP
Chair, Park and Recreation Commission

Cc: Jim Hartmann, City Manager
James Spengler, Director, RPCA
Farrol Hamer, Director, Planning and Zoning
Park and Recreation Commission
Chairman Jim Gibson and the Youth Sports Advisory Board

EXHIBIT NO. 1

21

4-14-09

City of Alexandria, Virginia

MEMORANDUM

DATE: APRIL 8, 2009

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER

SUBJECT: RECEIPT OF THE PROPOSED DRAFT ALEXANDRIA URBAN FORESTRY MASTER PLAN

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**ISSUE:** Proposed Alexandria Urban Forestry Master Plan.

**RECOMMENDATIONS:** That City Council:

(1) Receive the draft proposed Alexandria Urban Forestry Master Plan (Attachment 3), submitted by the Urban Forestry Steering Committee;

(2) Authorize staff to distribute this draft plan to the Planning Commission, the Park and Recreation Commission, the Environmental Policy Commission, the Open Space Advisory Group, and to the public for comments;

(3) Request that the draft plan be docketed for Planning Commission and City Council public hearing and consideration in June of 2009, as an amendment to the City of Alexandria Master Plan; and

(4) Thank the members of the Urban Forestry Steering Committee (Attachment 2) for their efforts on behalf of the City.

**BACKGROUND:** In January 2004 at the request of Councilman Rob Kupricka and then Councilman Andrew Macdonald, then City Manager Phil Sunderland met with a group of City residents and staff to discuss current City policies and procedures for the management and preservation of trees on both public and private property. Specific concerns included an increase in the number of trees being removed on public and private property, utility line clearance practices, and the replacement and planting of new trees. As a result of that meeting, the City Manager recommended and City Council approved in May 2004 the appointment of a 12 member Urban Forestry Steering Committee to develop and present a comprehensive Urban Forestry Master Plan for the City of Alexandria. The mission of the Urban Forestry Steering Committee and goal of the Urban Forestry Master Plan was to characterize and quantify the current state of Alexandria's Urban Forest, and to identify strategies to improve its density, health and diversity (Attachment 1).

The scope of work for the Urban Forestry Steering Committee included five primary areas of interest that were identified through meetings and input from City staff, as well as the goals and strategic recommendations set forth in the *Alexandria Open Space Plan* and *The City of Alexandria Recreation, Parks and Cultural Activities Strategic Master Plan.* They are to:

- Review City policies, programs and services for the planting, maintenance, and removal of publicly owned trees located along City streets, in parks, and on other public lands, and recommend needed changes;

- Review City ordinances, regulations and procedures that address the protection and preservation of trees located on public or private land and recommend changes;

- Promote programs that will enhance the public's awareness of trees and the benefits they provide to all of us individually, and as a community;

- Assist in the implementation of Goal 12 of the *Alexandria Open Space Plan*, Expand Citywide Street Tree Program and Protect Existing Trees and Woodland Areas: and

- Protect, restore and enhance the Urban Forest and beautification of the City, Strategy Recommendation Policy 1.5 presented in *The City of Alexandria Recreation, Parks and Cultural Activities Strategic Master Plan.*

The Urban Forestry Master Plan produced by the Steering Committee includes specific recommendations for policies and regulations regarding the maintenance, management, preservation and protection of the City's trees on both public and private properties. Draft program recommendations are prioritized, and performance measures are proposed. Recommendations to expand existing programs and new initiatives include performance measures, as well as cost estimates required for implementation.

The Urban Forestry Master Plan presents 52 short, mid, and long-term recommendations to stem the decline and loss of the City's tree canopy and to improve the City's Urban Forest. The recommendations were developed in response to key challenges identified by the Urban Forestry Steering Committee with the assistance of The Davey Resource Group, interaction with City residents, and the cooperation of City leaders, administration, and staff in the Departments of Planning and Zoning, Recreation, Parks and Cultural Activities and Transportation and Environmental Services. The key challenges identified include: the City's decreasing tree canopy cover; development and other pressures that are negatively affecting tree heath and longevity, and further limiting the space available for trees to be planted and grow to maturity; the absence of a Citywide tree management plan that has goals, objectives and performance measures; a current City program that is reactive not proactive, including a planting and tree care program that is limited and primarily focused on street trees; and a lack of sufficient public education and outreach.

In order to meet these challenges, the Urban Forestry Master Plan recommends that the City adopt American Forests' tree canopy goal of 40%, plant more trees, provide better care for existing and new trees, create a proactive and accountable management program, and to provide public education and outreach that encourages the preservation and expansion of the urban forest. Many of the recommendations presented can be implemented at little or no cost to the City. Other recommendations including the planting of an additional 400 trees annually, pruning an additional 4,000 trees annually, hiring additional tree and horticulture crew staff to meet the maintenance demands identified in the City's parks and school grounds, and the development and presentation of public education opportunities will require a significant increase in the level of funding provided for the City's arboriculture and horticulture programs of an estimated $1.1 million annually. The recommendations are ambitious, but realistically achievable over time. Some need immediate attention, whereas other recommendations can be phased in over time.

The Urban Forestry Master Plan addresses one of the critical issues first identified for action during Alexandria's first Environmental Summit held in 1997. Every year, the City of Alexandria loses tree canopy because of development, storms, aging, and urban pressures. If the City is to achieve the environmental, economic and aesthetic benefits of our urban forest, it should manage it and invest in its maintenance and preservation. The proposed draft plan responds to these issues by identifying and assessing current conditions, and by recommending actions to address these conditions.

**FISCAL IMPACT:** The Urban Forestry Master Plan recommends four new and expanded programs. The cost of these programs is included, in part in the FY 2009 Budget. Additional costs to implement these programs total $1.1 million annually.

The Urban Forestry budget for FY 2010 is $1.8 million which is a $0.3 million proposed reduction from $2.1 million in FY 2009. While a reduction of the Urban Forestry budget is not something that is a preferred option, FY 2010's overall Citywide severe funding constraints made this reduction necessary. It should also be noted that City staff proposed that City Council consider a restoration of $100,000 of this reduction in Budget Memo #73 sent to City Council on April 3, together with other possible "adds" to the FY 2010 budget. While it is recognized that this cutback makes the implementation of the recommendations more difficult, it is hoped that as funding constraints lessen in future years that significant elements of this proposed Urban Forestry Master Plan can be implemented. As is the case with many of the City's Master Plans, these plans are prepared as vision and long-term goal documents, and that each year's budget considers funding of elements of each Master Plan in competition with other short and long-term City budget needs.

Although there are proposed Urban Forestry budget reductions in FY 2010, the FY 2009 budget retains an unallocated $80,000 in Contingent Reserve for Urban Forestry. These funds were set aside in anticipation of the Urban Forestry report recommendations and can be used towards meeting Urban Forestry needs.

**Fiscal Budget Impact of Proposed New and Expanded Programs**

| Action | Estimated Annual Cost | FY 2009 Budget | Added Cost |
|---|---|---|---|
| Increase Tree Canopy | $177,750 | $105,000 | $72,750 |
| Five Year Pruning Cycle (as part of) On-Going Tree Maintenance Program | $976,945 | $496,945 | $480,000 |
| Reorganize Arborist/Horticulture Section | $2,007,476 | $1,596,476 | $411,000 |
| Educational Opportunities and Public Outreach | $95,000 | | $95,000 |
| **Total** | **$3,257,171** | **$2,198,421** | **$1,058,750** |

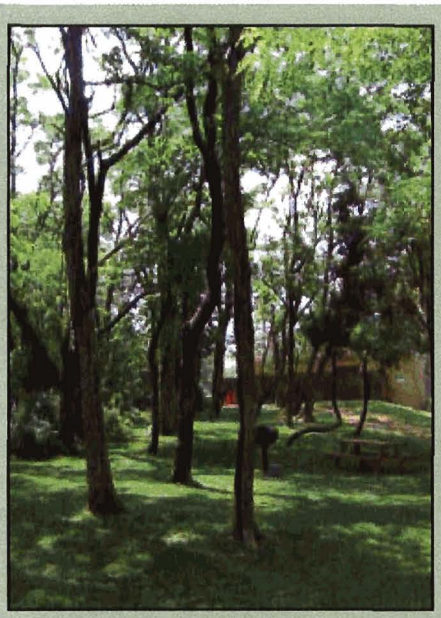
## ATTACHMENTS:

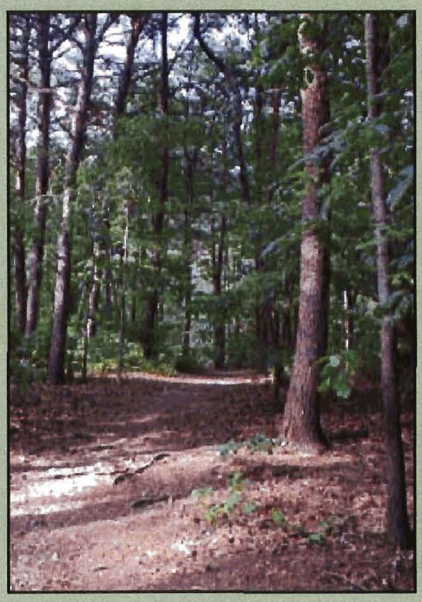
Attachment 1. City Council Docket Memo #21 5/25/04: Approval of the Establishment of an Urban Forestry Steering Committee as a City Manager Committee, and the Development of a Comprehensive Urban Forestry Plan
Attachment 2: Urban Forestry Steering Committee Roster
Attachment 3: Urban Forestry Master Plan

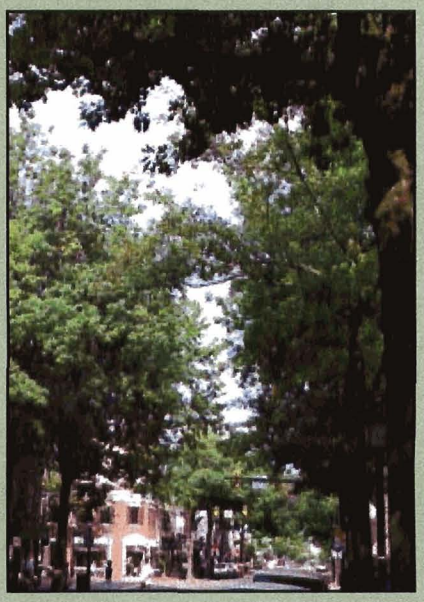
## STAFF:

Kirk Kincannon, Director, Recreation, Parks and Cultural Activities
Roger Blakeley, Deputy Director, Recreation, Parks and Cultural Activities
John Noelle, City Arborist, Recreation, Parks and Cultural Activities
Bethany Carton, Park Planner, Recreation, Parks and Cultural Activities

# CITY OF ALEXANDRIA
# Urban Forestry Master Plan







Published and Printed By

The City of Alexandria
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Urban Forestry Steering Committee

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Patrick Hagan
Bill Hendrickson
Tina Kulinski
Skip March
Deana Rhodeside, Chair
Jim Snyder
B.J. Sullivan
Paula Sullivan
Former Chair John Komoroske

City Council

Mayor William D. Euille
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Ludwig Gaines
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Park and Recreation Commission

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Mike Harris
John Noelle
Rod Simmons
John Walsh
Theodore Willger
Kevin Williams

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Davey Resource Group

# Executive Summary

## INTRODUCTION

The City of Alexandria has many lovely tree-lined streets and wooded areas, in both public and private ownership. Both the City government and citizens value the many environmental and economic benefits that trees provide. The government, strongly supported by its citizens, has consistently devoted significant resources to the planting and care of trees on public property.

Data Sources: 2007 City of Alexandria GIS Division Tree Canopy Extraction (Sept. 2007 Quickbird Multispectral Imagery) 85%-97.5% Accuracy; 2001 American Forests Land Cover Classification (Image Source Unknown) Accuracy Unquantified

Northridge Study Area

2007 Tree Canopy  2001 Canopy Loss

(*) The 2001 Canopy Extraction was performed by American Forests and delivered without "metadata" or other documentation. City of Alexandria GIS Staff contacted AF, but was unable to gather more details on the data source, extraction techniques, and other important information to help characterize the data quality. Therefore, the accuracy of the geographic referencing and the canopy extraction is unknown. Moreover, Alexandria GIS Staff observed a sizeable and irregular 15-30 ft. offset in the AF data set from the City's 1:100-scale GIS database. For the sample areas described in this document, a local adjustment was applied to reduce the relative shift, but the accuracy of that adjustment cannot be known.

(**) The 2007 Canopy Extraction was performed by City of Alexandria GIS Staff. The accuracy was measured at 85% (omission) - 97.5% (commission) and based on visual assessment of a random sample of 40 points distributed throughout the City. An adjustment was applied to correct for the underestimate created by the omission error.

Yet as a city with many densely developed areas, and with the pace of development intensifying in recent years, Alexandria faces a difficult challenge to maintain its existing tree cover and an even greater challenge to increase it. In fact, during the past few years, the extent of the tree canopy in the City appears to be getting smaller and its health declining. The overall state of the City's urban forest is fragile, as is true in many urban settings.

Alexandria's urban forest is at a critical juncture. The decisions made now will determine how much canopy cover will be gained or lost and how well or poorly Alexandria's current and future forest will function.

Recognizing the challenges and benefits of properly managing an urban forest, the City Manager appointed the Urban Forestry Steering Committee in 2004 to work with City Staff, a consultant, and citizens to prepare a comprehensive urban forestry management plan that would help guide future efforts. This report presents recommendations that will be taken under consideration in conjunction with the current fiscal environment.

## KEY CHALLENGES

The City's tree canopy cover is decreasing. A study of the City's tree canopy using City Green, a program developed by the nonprofit group American Forests, indicated that, in 2001, tree canopy covered approximately 34% of the City. A more recent study conducted by the GIS Division of the Department of Planning and Zoning found that the City's tree canopy cover was 30% in 2007.

In 2001 the tree canopy coverage of the more suburban Northridge Community was estimated to be 63%. The 2007 study indicates that the canopy coverage of Northridge decreased to 57%. Similarly, the tree canopy cover over the Del Ray community east of Commonwealth Avenue was reduced from 31% in 2001 to 27% in 2007. Del Ray west of

Commonwealth Avenue changed from 45% to 39% tree canopy cover during the same period. Figure 1 on page 3 shows the results of the City's tree canopy cover analysis of designated test plots using 2001 and 2007 data.

Development and other pressures are negatively affecting the health and longevity of Alexandria's trees and limiting the areas in which trees can be planted. In addition to major development and redevelopment projects, the expansion of many single-family homes has resulted in the loss of trees and less space for planting new ones. Street trees must often be planted in inadequate spaces, and conflicts with above-ground and below-ground utilities are rampant. The lack of adequate planting strips makes it difficult to plant large shade trees, which provide the greatest environmental benefits.

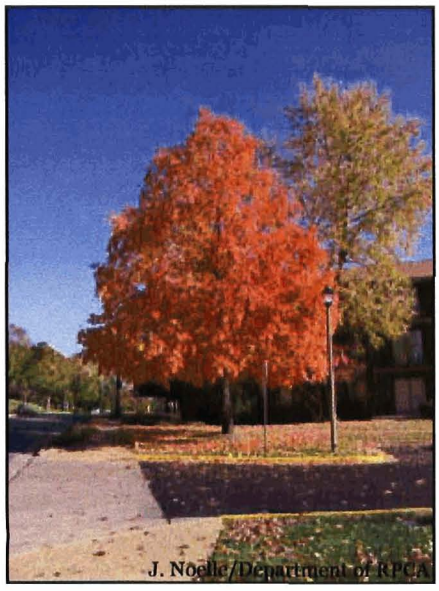
Current resources and funding limit the ability of the City Arborist Office to provide for little more than the basic needs of the City's trees. Most of the staff time is spent responding to requests for service and reacting to problems. Only minimum amounts of time and resources are dedicated to proactive activities designed to enhance the urban forest.

Currently the City does not have a formal citywide management plan with goals, objectives, and performance measures, nor the tools and data needed to effectively manage Alexandria's urban forest. Except for a partially completed street tree inventory, there are no resources available to quantify or monitor the extent and the health of the City's tree cover.

In the planting and care of trees, staff focuses almost exclusively on street trees. Efforts in other parts of the urban forest—school grounds, parks, natural areas, stream corridors, and private and institutional property—are limited.

Although tree pruning efforts have increased in recent years, they are still below a level required to promote a healthy stand of trees. More resources need to be focused on the care of newly planted trees, especially in the first two-to-three years when watering in particular can be critical to tree survival and growth.

Public education—considered by many experts to be a key factor in preserving and enhancing the urban forest—is virtually nonexistent. Promotion of existing City-sponsored tree-oriented programs, such as the program to share the cost of planting street trees with residents and the Living Landscape Fund, is minimal. There is no tree-oriented section of the City website.

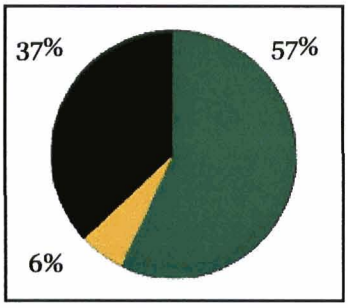


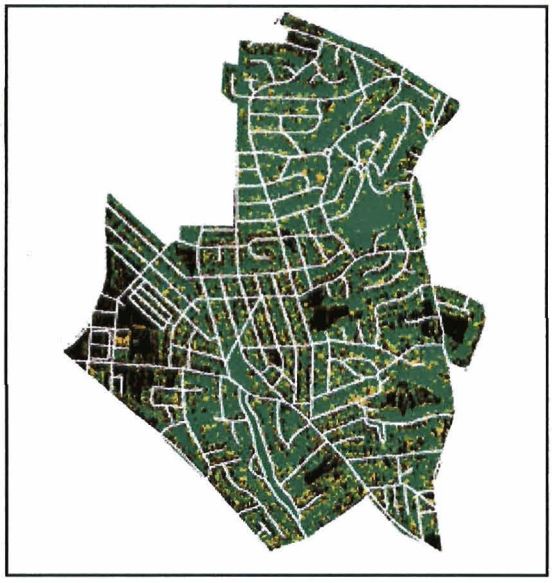

Although there are many needs on public property, most of the City's urban forest is under private control, not subject to state or local regulations, and therefore vulnerable to inadequate management, injury, and tree removal. Homeowners often take great pride in the trees on their properties, but many lack basic knowledge about the benefits of trees, the appropriate trees to plant, and how to plant and care for them. In addition, trees are being lost on institutional properties where there are no requirements to preserve, protect or increase the tree canopy. Maintaining tree canopy on private and institutional property will be a major challenge in the years to come.

## Figure 1.
## City of Alexandria Canopy Coverage Study Areas

### Northridge Study Area

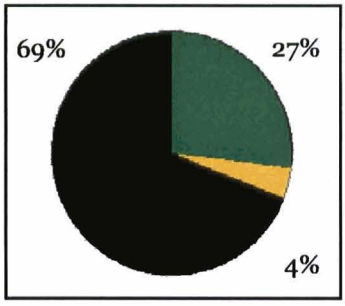
- 2007 Tree Canopy
- Canopy Lost Since 2001
- Impervious Surface



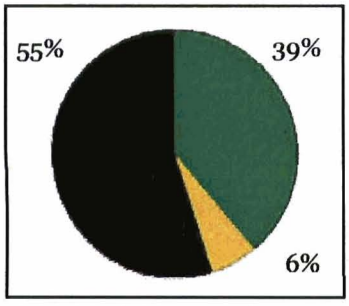
### Del Ray East Study Area

- 2007 Tree Canopy
- Canopy Lost Since 2001
- Impervious Surface




### Del Ray West Study Area

- 2007 Tree Canopy
- Canopy Lost Since 2001
- Impervious Surface

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## MAJOR RECOMMENDATIONS

To meet these challenges, innovative approaches to managing the urban forest are required. Based on lessons learned from across the country, and from the feedback provided by Alexandria's citizens, a variety of suggestions have been made to improve the City's urban forest.

The overarching goal of the Alexandria Urban Forestry Master Plan is to increase the tree canopy throughout the City by better maintaining our existing trees and adding a significant number of new trees. The master plan includes specific recommendations for improving each part of the urban forest: public trees along streets, in parks, on school grounds and as part of other open spaces; private trees in residential areas and on institutional grounds; and trees within stream valleys and other natural areas. Summarized below are the major recommendations of the plan, defined in four strategic categories: tree planting, tree care, management, and public education and outreach.

### *Tree Planting*

- Adopt American Forests' recommended tree canopy coverage goal of 40% and develop a citywide strategy to meet this goal. (Recommendation 1) *
- Plant 400 additional trees per year above what is being planted today and plant them on all types of public properties. School grounds provide an excellent opportunity for increased tree planting and should be a top priority. (Recommendation 4)
- Develop and implement master landscaping, planting, and maintenance plans for all public properties, including City rights-of-way, schools, libraries, stream corridors, and open spaces, and implement one-to-two of these plans each year. (Recommendation 13)
- Employ planting techniques that will promote the healthy growth of trees within an urban setting, such as alternative soil mixtures, extended tree wells, and systems to direct and manage root growth. (Recommendation 19)
- Establish a tree bank to plant trees on both public and private properties. The bank would be funded through various sources such as development-related activities, property damage reimbursements, and other sources. (Recommendation 6)


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- Create a grant program to permit the use of City funds to subsidize all or a portion of the cost of planting trees on private property. (Recommendation 7)
- Continue the City's spring and fall tree sales program (established in 2005 under the auspices of the Urban Forestry Steering Committee). (Recommendation 8)
- Provide and promote incentives to plant trees and implement projects to preserve and enhance the tree canopy on institutional and semi-public sites, such as INOVA Alexandria Hospital and Episcopal Seminary and High School. (Recommendation 31)
- Build on the Alexandria Open Space Plan's recommendation to seek innovative ways of creating more open space by developing and implementing pilot projects such as "green streets" (see Appendix F), which are aimed at redesigning streets to reduce impervious surface, thus freeing up land for tree planting and helping to meet other environmental goals, such as reducing the impact of storm water runoff. (Recommendation 24)

- Take steps to incorporate the use of more sustainable approaches to environmental design, such as rooftop gardens, to provide additional benefits for the City's overall canopy on private as well as public properties. (Recommendation 11)

- Increase and maximize the amount of tree canopy coverage required for Development Special Use Permits. (Recommendation 38)

### *Tree Care*

- Fund and implement a five-year pruning cycle for all existing street trees and a three-year establishment program for new trees. (Recommendation 39)

- Work with the Departments of Transportation and Environmental Services, and Planning and Zoning to develop standards for, and require, innovative planting techniques and products to facilitate tree planting in restricted, high-use, difficult, and special needs areas. (Recommendation 18)

### *Management*

- Change the name of the Arborist Office to the Urban Forestry Office and take steps necessary to transform it into a proactive operation with a systematic and strategic focus on the urban forest system as a whole. Develop a management plan and provide the resources needed to effectively manage the plan. (Recommendation 40)

- Create a new Urban Forest Specialist position that would be dedicated to activities aimed at preserving and enhancing the City's urban forest. (Recommendation 41)

- Establish benchmarks and report progress in an annual State of the Urban Forest Report to the City Manager and City Council. (Recommendation 43)

### *Public Education and Outreach*

- Develop and implement an effective public outreach and education strategy and pursue it actively and consistently. Volunteers are a greatly untapped resource in this regard and should be a core part of this strategy. (Recommendation 44)

- Fund an additional extension agent at Virginia Cooperative Extension who would provide vital volunteer programming services for Alexandria's residents. This person would, among other tasks, work to expand Alexandria's role in the Tree Stewards of Arlington and Alexandria program, a group of volunteers trained by the extension service to educate and assist citizens on proper tree planting and care. (Recommendation 49)

- Rededicate Fort Ward as the City's arboretum and develop and adopt a master plan for the park. An arboretum could be an effective educational tool, providing increased public awareness about tree species appropriate to our City, planting conditions, and care. (Recommendation 25)

- Build an effective website www.alexandriava.gov/trees and provide links to other important sites with information about the benefits of tree programs and services that are available to the public. (Recommendation 50)

- Actively promote the existing Tree Stewards program and engage other citizens by creating opportuities to become program volunteers to assist in completing the vital maintenance tasks proposed in the Urban Forestry Master Plan that are currently not funded or inadequately funded for completion by City staff. These tasks might include: conducting tree inventories, small tree maintenance, tree planting, pruning teaching, grant writing, and marketing and public relations. (Recommendation 53)

*Recommendation numbers do not imply an order or priority, but refer to the overall number system used in Chapter 3, Analysis and Recommendations.

### Fiscal Budget Impact of Proposed New and Expanded Programs

| Action | Estimated Annual Cost | FY 2009 Budget | Added Cost |
|---|---|---|---|
| Increase Tree Canopy | $177,750 | $105,000 | $72,750 |
| Five Year Pruning Cycle (as part of) On-Going Tree Maintenance Program | $976,945 | $496,945 | $480,000 |
| Reorganize Arborist/Horticulture Section | $2,007,476 | $1,596,476 | $411,000 |
| Educational Opportunities and Public Outreach | $95,000 | | $95,000 |
| **Total** | **$3,257,171** | **$2,198,421** | **$1,058,750** |

## CONCLUSION

The recommendations in the master plan are ambitious, but realistically achievable. Some need immediate attention; whereas others can be phased in over time. Implementing some of these recommendations will require a significant increase in public funding. If funding is not available, alternative resouces such as grants, sponsorships and most importantly, volunteer efforts must be actively sought out and engaged to move closer to achieving the goals of this plan. Failure to make the investment, or garner the alternative resources, however, could have serious long-term consequences for the City's environmental quality of life.

In 1997, when the City of Alexandria held its first Environmental Summit, the City's urban forest was one of the critical issues identified for action. In the eleven ensuing years, this issue has only become more urgent. The Urban Forestry Master Plan responds to this urgency both by identifying and assessing current conditions, and by recommending actions to address these conditions. The problem is straightforward: every year, the City of Alexandria is losing tree canopy because of development, storms, aging, and urban pressures. If we are to enjoy the environmental, economic and aesthetic benefits of our urban forest, we must learn how to better manage it. By developing systematic and enhanced tree planting and maintenance programs, by having adequate funding, staffing, and public education resources available, and by undertaking innovative projects, Alexandria's future urban forest can be extensive, healthy, and highly valued, as envisioned by this plan.


J. Noelle/Department of RPCA

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 1. Adopt American Forest's recommended tree canopy coverage goal of 40% and develop a citywide strategy to meet this goal. | High | N/A | N/A | Short-term goal. |
| 2. Perform tree canopy coverage analysis every five years using City Green or other comparable programs to determine changes in canopy cover and impervious surfaces. | High | $8,000 | N/A | Mid-term goal. This analysis would be completed every five years. The cost of the program includes $3,000 for the required data and $5,000 for the analysis. |
| 3. Sustain Alexandria's existing tree canopy through a comprehensive tree replacement and maintenance program for trees on public property and by developing new and promoting existing educational resources for the public. | High | N/A | N/A | Mid-term goal. |
| 4. Plant 400 more trees per year above what is currently being planted annually on public properties, including City rights-of-way, schools, libraries, and other public facilities. | High | $90,000 | N/A | Mid-term goal. The average unit cost for trees installed is approximately $225 depending upon the species and size of the specimen. |
| 5. Actively seek ways to increase Alexandria's tree canopy on private property. | High | N/A | N/A | Short-term goal. |
| 6. Establish a tree bank to plant trees on both public and private properties. The bank would be funded through various sources such as development-related activities, property damage reimbursements, and other sources. | Moderate | N/A | N/A | Mid-term goal. |
| 7. Create a grant program to permit the use of City funds to subsidize all or a portion of the cost for planting trees on private property. | Moderate | N/A | N/A | Long-term goal. |
| 8. Continue the City's spring and fall tree sales program (established in 2005 under the auspices of the Urban Forestry Steering Committee). | High | N/A | N/A | Short-term goal. |
| 9. Achieve and maintain a species diversity where no single genus comprises 15% and no single species comprises 5% of the total population. | Moderate | N/A | N/A | Long-term goal. This may be accomplished by expanding the pallette of trees selected for planting and limiting the additional planting of Callery Pear species and Red Maples. |

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 10. Work with local civic and business groups to identify opportunities to plant additional trees on public and private lands. | Moderate | N/A | N/A | Long-term goal. Already conducted informally with small neigborhood groups. |
| 11. Take steps to incorporate the use of more sustainable approaches to environmental design, such as rooftop gardens, to provide additional benefits for the City's overall canopy on private as well as public properties. Green roofs can provide some of the functions of forested areas including carbon fixation, shading, cooling, and watershed protection. Green roofs on underground parking structures can provide ground-level open space that is important to the continuous open space network. | Moderate | N/A | N/A | Long-term goal. |
| 12. Conduct an inventory of all trees located in the public rights-of-way, in parks, on school properties, and at all other public properties and facilities. The inventory should be completed and reviewed on a continuous five-year schedule or as changes occur. | High | N/A | N/A | Short-term goal. To be completed on a five year schedule in concert with the recommnended street tree pruning rotation. |
| 13. Develop and implement master landscaping, planting, and maintenance plans for all public properties including City rights-of-way, schools, libraries, stream corridors, and open spaces, and implement one to two of these plans each year. These plans should provide maintenance rotations and establish level-of-service standards for each land use type. Plans should also include strategies for regular inspections of trees, criteria for treatment, and practical methods to maintain current information on all trees subject to treatment. Coordinate with the Departments of Transportation and Environmental Services and Planning and Zoning to ensure plans are consistent with existing transportation and small area plans. | Moderate | N/A | N/A | Mid-term goal. |
| 14. Develop quantitative methods to evaluate the overall health of Alexandria's street trees and trees on public properties. | High | N/A | N/A | Mid-term goal. |
| 15. Plant and establish additional trees to achieve a 100% stocking level of available planting sites. | Moderate | N/A | N/A | Long-term goal. |

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 16. Actively seek opportunities to establish tree-lined medians along rights-of-way that are wide enough to create boulevards. Develop an urban forestry enhancement program specifically for Alexandria's unique boulevards and other significant transportation corridors. | Moderate | N/A | N/A | Long-term goal. |
| 17. Establish criteria to identify sites that will permit the expansion of tree planting strips and tree wells to provide more suitable growing conditions for street trees, decrease conflicts between tree roots and urban infrastructure, and meet all Americans with Disabilities Act requirements for adequate clearance and passage. | High | N/A | N/A | Mid-term goal. |
| 18. Work with the Departments of Transportation and Environmental Services, and Planning and Zoning to develop standards for, and require, innovative planting techniques and products to facilitate tree planting in restricted, high-use, difficult, and special needs areas. | High | N/A | N/A | Short-term goal. |
| 19. Employ planting techniques that will promote the healthy growth of trees within an urban setting, such as alternative soil mixtures, extended tree wells, and systems to direct and manage root growth and limit conflicts between roots and urban infrastructure. Develop standards for planting in areas where space is too restricted or soil, aeration, drainage, or other conditions preclude providing adequate space and a satisfactory environment for trees to survive and thrive. | High | N/A | N/A | Mid-term goal. |
| 20. Explore opportunities to protect existing trees by using alternative paving materials and methods to correct conflicts between tree roots and sidewalks, such as rubber sidewalks, stone dust, permeable paving, and alternative pavement profiles. | High | N/A | N/A | Mid-term goal. |
| 21. Seek to relocate all overhead wires underground to avoid conflicts with trees and provide increased opportunities to plant large shade trees with an emphasis on major corridors. | Moderate | N/A | N/A | Long-term goal. |

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 22. Implement pilot programs to develop and adopt alternative street profiles and sections that provide larger tree planting areas, more open space, increased permeable surface area, and new opportunities for stormwater management, also referred to as shared street concepts. | Moderate | N/A | N/A | Long-term goal. |
| 23. Establish and implement comprehensive planting and maintenance plans for trees located on parks, schools, and other public open space properties. These plans should be developed in conjunction with park landscape master/management plans which include both development and rotational maintenance costs. | High | N/A | N/A | Mid-term goal. |
| 24. Build on the Alexandria Open Space Plan's recommendation to seek innovative ways of creating more open space by developing and implementing pilot projects such as Green Streets (see Appendix F), which are aimed at redesigning streets to reduce impervious surface, thus freeing up land for tree planting and helping to meet other environmental goals, such as reducing the impact of storm water runoff. | Moderate | N/A | N/A | Long-term goal. |
| 25. Rededicate Fort Ward Park as the City's Arboretum and develop and adopt a master plan for the park. Create a collection of trees and other woody plants that will serve as an educational resource for City residents and visitors. | High | $25,000 | N/A | Mid-term goal. |
| 26. Promote the value of tree donations and other support programs, such as the Living Landscape Program, as a source of trees to be planted in parks and other public open spaces. Park master plans should be developed with tree locations that are ear-marked for living landscape trees. | High | N/A | N/A | Short-term goal. |
| 27. Continue to celebrate Arbor Day and hold other special events and educational programs about urban forestry on parks and school grounds. | High | N/A | N/A | Short-term goal. |
| 28. Encourage the establishment and healthy growth of native tree species through planting and maintenance. | Moderate | N/A | N/A | Mid-term goal. |
| 29. Control invasive plant species. | High | N/A | N/A | Short-term goal. |

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 30. Improve maintenance of overgrown and currently inaccessible and under-used stream valleys and natural public open space. | Moderate | N/A | N/A | Long-term goal. |
| 31. Provide and promote incentives to plant trees and implement projects to preserve and enhance the tree canopy on institutional and semi-public sites, such as INOVA Alexandria Hospital and Episcopal Seminary and High School. | High | N/A | N/A | Mid-term goal. |
| 32. Encourage the establishment and dedication of open space tree canopy conservation, scenic and historic easements on institutional and private properties. | Moderate | N/A | N/A | Mid-term goal. |
| 33. Develop guidelines for, and privately fund, a City grant program to support tree planting on private property. Grants should be made available to qualified homeowners, civic organizations, places of worship, religious institutions, and other not-for-profit organizations. | Moderate | N/A | N/A | Long-term goal. |
| 34. Educate private property owners about the benefits of trees and proper planting and maintenance strategies. | High | N/A | N/A | Short-term goal. |
| 35. Encourage homeowner and civic associations to create tree or beautification boards with which the City Arborist can communicate and provide information about tree planting and maintenance on this type of property. | High | N/A | N/A | Mid-term goal. |
| 36. For commercial and industrial properties, enforce site plan and special use permit landscape requirements and conditions for new and existing development sites. Perform site inspections to ensure compliance. | High | N/A | N/A | Short-term goal. |
| 37. Evaluate, update, and enforce the City's existing rules and regulations. | High | N/A | N/A | Short-term goal. |
| 38. Increase and maximize the amount of tree canopy covreage required for Development Special Use Permits. | High | N/A | N/A | Short-term goal. |
| 39. Plan, fund, and implement a five-year pruning cycle for all established trees and a three-year establishment program for new trees planted along City streets, in parks, and on school and other public properties. | High | $480,000 | N/A | Mid-term goal. This would provide for the pruning of an additional 4,000 trees annually; to be accomplished through block to block pruning which will reduce the average unit cost of pruning a tree by an estimated 25%. |

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 40. Transform the City Arborist Office and Tree Maintenance Section into a proactive Urban Forestry Section with a systematic and strategic focus on the urban forest system as a whole. Develop a management plan and provide resources needed to effectively manage the plan. Optimize personnel allocations and create efficiencies by combining the City's urban forestry and horticulture programs under one Natural Resources Section. | High | N/A | N/A | Short-term. Convert five-year temporary Arborist position to permanent status. |
| 41. Create a new Urban Forest Specialist position that would be dedicated to activities aimed at preserving and enhancing the City's urban forest. | Moderate | $110,000 | N/A | Mid-term goal. |
| 42. Fund requests for additional tree trimmers and horticulture staff necessary to successfully meet the goals of the Urban Forestry Master Plan. | High | $301,000 | N/A | Mid-term goal. This would include the conversion of the vacant Assistant Superintendent position to a Tree Trimmer Position. Create two new Tree Trimmer Positions to create a third tree crew to accomplish the expanded soope of services recommended; $160,000. Create two new Horticultural Assistant positions to meet the demands to maintain the additional trees planted and implement a comprehensive watering and new tree maintenance program; $120,000. Purchase one chipper truck, one brush chipper, and one utility dump truck for the horticultural crews; $21,000 annual equipment replacement cost. |
| 43. Establish benchmarks and report progress in an annual State of the Urban Forest Report to the City Manager and City Council. | High | N/A | N/A | Short-term goal. |
| 44. Develop and implement an effective public outreach and education strategy and pursue it actively and consistently. Volunteers are a greatly untapped resource in this regard and should be a core part of this strategy. | High | N/A | N/A | Short-term goal. |
| 45. Create a series of public service announcements on various urban forestry topics for radio, cable access television, and print news media outlets. | Moderate | N/A | N/A | Mid-term goal. |
| 46. Develop and distribute information about the proper care for trees after they are planted. | High | N/A | N/A | Short-term goal. |

## Recommendation Matrix

| Recommendation | Priority | Annual Cost Increase | Annual Cost Savings | Comments |
|---|---|---|---|---|
| 47. Promote the preservation and expansion of Alexandria's tree canopy with programs, such as seminars and neighborhood tree walks. | Moderate | N/A | N/A | Mid-term goal. |
| 48. Increase support for and promote the expanded use of existing public resources such as the Cooperative Extension Service and the Tree Stewards and Master Gardeners of Arlington and Alexandria to provide assistance, advice, and educational opportunities and materials to the citizens of Alexandria. | High | N/A | N/A | Short-term goal. |
| 49. Fund an additional extension agent at Virginia Cooperative Extension who would provide vital volunteer programming services for Alexandria's residents. This person would, among other tasks, work to expand Alexandria's role in the Tree Stewards of Arlington and Alexandria program, a group of volunteers trained by the extension service to educate and assist citizens on proper tree planting and care. | Moderate | $70,000 | N/A | Mid-term goal. |
| 50. Promote the availability and distribution of information to the public about the selection, planting, and care of trees through the development of an effective website www.alexandriava.gov/trees, and the publication of handbooks, fliers and other publications. | Moderate | N/A | N/A | Mid-term goal. |
| 51. Encourage collaborative efforts with local schools of landscape architecture to study opportunities to improve streetscape, public open space, park, school, and facility designs. | High | N/A | N/A | Short-term goal. |
| 52. Create partnerships with allied businesses and organizations to share in the distribution of timely urban forestry information; partnerships could include: local realtors, utility companies, nursery and landscape companies, and tree services contractors. | Moderate | N/A | N/A | Long-term goal. |
| 53. Actively promote the existing Tree Stewards program and engage other citizens by creating opportunities to become program volunteers to assist in completing the vital maintenance tasks proposed in the Urban Forestry Master Plan that are currently not funded or inadequately funded for completion by City staff. These tasks might include: conducting tree inventories, small tree maintenance, tree planting, pruning, teaching, grant writing, and marketing and public relations. | High | N/A | N/A | Short-term goal. |