TOWN OF CUMBERLAND, RHODE ISLAND

Department of Planning and Community Development

Request for Qualifications

Tree Planting & Management Program

Bid # 2022-0801-01

Introduction

The Town of Cumberland requests qualification proposals from teams comprised of landscape architects and certified arborists, with demonstrated experience in the planting design and management of installation and establishment of street trees to prepare site preparation specifications, planting plans and management oversight for locations throughout the Town of Cumberland.

The Town has been awarded two separate grants. The first is from the Rhode Island Infrastructure Bank Municipal Resiliency program ($250,000) to have street trees planted at 26 sites in the Valley Falls and Lonsdale neighborhoods. These sites are specified in the *Valley Falls/Lonsdale (VFL) Urban Forestry Municipal Resilience Project (MRP) Project Summary* (Attachment A).

The second grant is from the US Forest Service for Landscape Restoration to plant 200 trees on public and private sites throughout Cumberland. Cumberland has been awarded this grant along with the Cities if Pawtucket, Central Falls and Woonsocket, and the grant coordinator is Goundwork Rhode Island. Clark University and the Blackstone Watershed Council are also parties to the grant and will be providing technical support. The scope of the grant is detailed in *USDA Forest Service Eastern Region State and Private Forestry Fiscal Year 2022 Landscape Scale Restoration Competitive Process Request for Applications Project Narrative Form* (Attachment B).

Over the course of the fall and winter of 2022-2023 additional sites will be evaluated and selected. The consultant will work with the parties to design a planting plan for each eventual site and draft bid specifications for the planting and project management. The planting is to take place in the fall of 2023.

This project is funded by both grants and are to be managed as two phases of one project. The Towns total budget for these services is $21,000/year over three years.

Each designated area shall have: site preparation requirements; planting plan; plant selection specifications that are suitable to the area that meets hardiness, appropriateness, and other standards as determined by the Town by location; and plant sourcing to accommodate the plant material and management for the projects at multiple locations. These areas are to be designed and managed by the landscape architect and certified arborist. Designs will be subject to the input of the Town's Conservation Commission and abutters, and at least one public Commission meeting will be required.

The certified arborist shall work with the Town and landscape architect to provide insight during the design process when required and will be responsible for the oversight of the installation process to ensure the proper planting techniques are applied and to ensure the long-term viability of the plantings. This oversight will run for three years from the start of the contract and will also incorporate the following tasks:

1. Technical supervision of site preparation and planting
2. On-going technical support and quality control
3. On-call technical tree services for the Town

The Town's goal with this project is to provide trees and plantings to screen locations and enhance the general aesthetics of the Town, provide shade relief in areas where heat-island effects are problematic, and to enhance the overall environment in some of the most densely populated areas in the Town.

Scope of Work

Planting Plans & Plant Selection

The landscape architect shall work with the Town and the certified arborist on the team to develop planting plans, finalize locations, and make plant selections for all work to be conducted throughout the course of this project. The landscape architect's work shall include, but not be limited to, the following:

- Make a public presentation to the Conservation Commission and the public so that questions and concerns can be addressed.
- The presentation should incorporate mapping of locations to be planted, planting plans for areas, graphics to show before and after impacts where appropriate, and information about the plant material that is recommended.
- Work with the certified arborist and Town to create specifications and management plan that can be used for future work and aid in the long-term success of the project.

The certified arborist shall work with the Town and the landscape architect on the team to develop site preparation specifications, planting plans, finalize locations, and plant selections for all work to be conducted through this project. The certified arborist's work shall include, but not be limited to, the following:

- For each project phase, the consultant is to attend one public presentation with the Conservation Commission, grant partners and the public so that questions and concerns can be addressed.
- Supervise and oversee the installation of the plantings throughout the project.

Project Phases

Phase 1. For the VFL Municipal Resiliency Project, final plans, specifications, and meeting shall be completed by September 15, 2022, to ensure that a first round of planting can start in the fall of 2022.

Phase 2. At the same time, the Consultant will work with the Town, Groundwork Rhode Island the Blackstone Watershed Council and Clark University to develop the second planting phase consisting of the planting of 200 trees, which is to take place in the fall of 2023.

Project Term

For three years from the start of the contract, the certified arborist will serve as a temporary tree warden for the Town and will be called upon to review additional work and also have on-call services to assist the Town in any technical capacity in regard to trees and planting.

RFQ Schedule

RFQ Issued:	July 5, 2022
Last Day for Questions:	July 28, 2022
Proposals Due:	August 1, 2022 @ 2:00 PM
Interviews:	August 3-10, 2022
Award:	August 18, 2021

Additional Information for Bidders

- Bidders must be licensed to do business in the State of Rhode Island.

- The Town of Cumberland is exempt from the payment of Rhode Island sales tax. Costs proposed must be exclusive of taxes and will be so construed.

- Firms submitting proposals must have been in business under the same name and have successfully undertaking tree design and planting projects for a minimum of five years.

- Interested firms shall provide the following as part of their proposal:
    1. Cover letter that identifies the project manager, firm qualifications, and relevant past projects.
    2. Detailed explanation of the firm's project approach, understanding of the scope of work, as well as the consultant's expectations of assistance and services from the Town.
    3. Qualifications and experience of key personnel who will be assigned to the project, including a list of relevant tree design and planting projects with which they were personally involved.
    4. Availability of key personnel to complete the project.
    5. Example of projects of similar scope and complexity within the last five (5) calendar years including references and points of contact.
    6. If consultant teams are being proposed, a written description and role of any subcontractor and/or consulting member must be provided, including past work and professional certifications.

- Evaluation Criteria Costs are not required for this qualifications-based submittal and will therefore not be considered as part of the evaluation. The Town will select finalists for potential interviews based on the content of their written proposals as judged against the following criteria:

1. General professional landscape architectural experience (10 points)
2. Technical approach and understanding of the project (10 points)
3. Proposed schedule with benchmark dates (10 points)
4. Experience and qualifications of the project manager and assigned personnel (10 points) 5. Evaluation of firm references (10 points)
6. Past project experience specific to historic buildings and consultation with the RIHPHC (10 points)

Submission and Schedule

Qualification proposals must be submitted in sealed envelopes clearly marked "Tree Planting and Management Program" - Bid# 2022-0801-01" and delivered to the following address:

Cumberland Town Hall, Mayor's Office
Attn: Sarah King
45 Broad Street
Cumberland, RI 02864

Sealed proposals will be accepted until 2:00 P.M. local time on Monday, August 1, 2021. Any proposals received after the specified time will not be accepted.

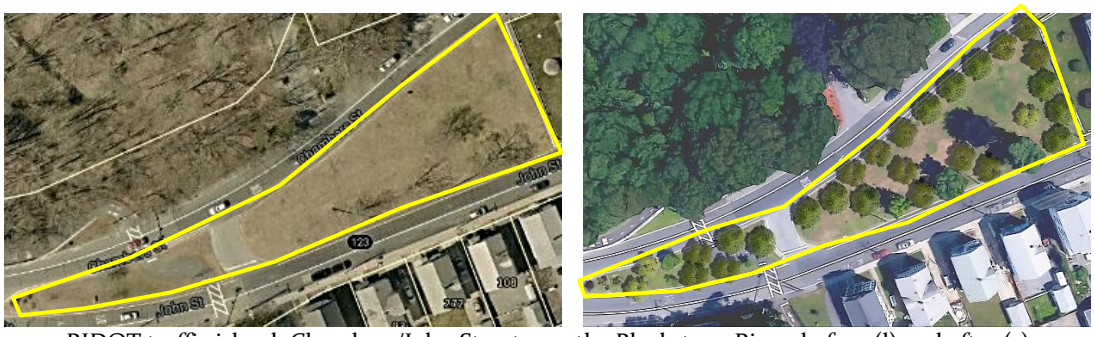
Please submit six (6) hard copies of your proposal, along with .pdf version emailed to Sarah King: sking@cumberlandri.org.

Based on the results of the interviews, in combination with the Evaluation Criteria, the Town will select a single top-ranked firm to provide a cost proposal. If negotiations with the top-ranked firm are unsuccessful, the process will be repeated with the next highest-ranked firm until a fair and reasonably priced contract can be awarded.

Questions or Addendum Questions concerning this RFP must be submitted in writing to: Mr. Jonathan Stevens, Planning Director, 45 Broad Street, Cumberland, RI 02864. They may be emailed to jstevens@cumberlandri.org. All questions must be received by 12:00 PM on Thursday, July 28, 2021, to be considered. If any changes are made to this RFP, an addendum will be posted to the Town's website: https://www.cumberlandri.org/bids

Valley Falls/Lonsdale (VFL)
Urban Forestry
Municipal Resilience Project (MRP)

PROJECT SUMMARY



RIDOT traffic island, Chambers/John Streets, on the Blackstone River, before (l) and after (r)

Presented to: The Rhode Island Infrastructure Bank

by

Town of Cumberland

Jeffrey Mutter, Mayor
Planning Department, Department of Public Works
Conservation Commission, Planning Board

Blackstone River Watershed Council
Cumberland Land Trust, American Forests

February 8, 2022

Project Summary

1. Grant Request.
The Town requests a grant amount of $250,000.

Grant administration
Planning Director Jonathan Stevens will administer the grant on behalf of the Town of Cumberland, and in cooperation with the Cumberland Conservation Commission

Town match
The Town will go out to bid for professional arborist/landscape architectural services and designate one consultant staff member as the Town Tree Warden. The consultant will perform the following technical services relating to administering the grant:

a. Designed site plans as noted below
b. Plant and spacing specifications for street tree strip plantings
c. Assistance on how best to allocate available funding for maximum impact
d. Assistance in drafting RFP for plants/plantings
e. Quality control sign off on plantings once complete
f. Extended monitoring of new tree installations

Tree installation contractor
For a *Tree installation contractor* for "furnished and installed" (F&I) trees, with unit prices (ball & burlap/container-produced sapling (including soil & mulch, staking, and a guarantee against mortality for 1 year. No staking necessary).

2. Schedule
The Planting installations will start in late fall 2022. The project will be completed by December 31, 2023.

3. The American Forests "Tree Equity Scores Analysis" (TESA)
With relatively little tree canopy and the highest concentration of low/moderate income families in the Town, the Valley Falls and Lonsdale area scores are much lower compared to most Cumberland neighborhoods. Planting trees in these areas is good for public health, social justice, the environment, and the economy.

4. *Disparity*
The Valley Falls/Lonsdale (VFL) area is distinctly more urban than the rest of Cumberland. The 1.2 square mile district (RI Census Tract 112) has 5,700 residents in 2381 households. The annual per capita income is $29,000. There is a need enhance the area's streetscapes and restore the area's urban forestry. According to American Forestry, the lack of tree canopy on the streets of Valley Falls and Lonsdale contributes to economic and social disparity.

5. *Street Tree Site Survey*
Town staff surveyed all Valley Falls and Lonsdale, seeking planting locations clearly within the Town rights-of-way. Trees will be planted where fencing and other structures demarcate property lines with abutters.

RIDOT has provided written permission to install landscaping on Broad Street (where 16 tree wells await plantings) and a large traffic island at Chambers and John Street.
American Forests has provided a supporting Tree Analysis Score Report for the specific locations specified in this project application https://rhode-island.treeequityscore.org/scenario/61f1bb60a155cf436799f5e9/report. This report quantifies the estimated project environmental benefits of adding two acres of tree canopy, including the sequestering of carbon dioxide, ozone, nitrogen oxide, particulate matter, volatile organic compounds, energy cooling and energy heating.

For planning purposes, the table assumes one tree per 40 linear feet. This total will change as planting plans are customized for each site. Sites could be added or eliminated, depending on funding capacity. Each site will be screened for underground utilities.

6. *Local Support*
The Town Council passed a resolution February 2, 2022 authorizing Mayor Mutter to apply for this grant. This application has letters of support from: the Cumberland Planning Board, Cumberland Conservation Commission, Cumberland Land Trust, Blackstone River Watershed Council, Blackstone Watershed Collaborative, Rhode Island Tree Council, Blackstone Valley Tourism Council and American Forests.

The application was developed in consultation with the Valley Falls/Lonsdale Urban Forestry Grant Advisory Committee:

Molly Henry, American Forests
Lou Allard, RI DEM Urban and Community Forestry Program Coordinator
Scott Wheeler, City of Newport Superintendent of Parks, Grounds & Forestry
John Campanini, Technical Advisor, Rhode Island Tree Council
George Gifford, ASLA
Randy Tuomisto, President, Cumberland Land Trust
John Marsland, President, Friends of the Blackstone
Dr. Robert Billington, President, Blackstone Valley Tourism Council
James Metivier, Cumberland Town Council (Ward 1)
Lisa Beaulieu, Cumberland Town Council (Ward 3)
Joe Luca, Chair, Cumberland Conservation Commission
Steven D'Ambrosia ASLA, Cumberland Conservation Commission
Lindsey Corse, Cumberland Conservation Commission
Dr. George Gettinger, Cumberland Conservation Commission
David Coutu, Chair, Cumberland Planning Board
Ameila Rose, Groundworks RI

7. *Community outreach*.
The Cumberland Conservation Commission will hold a public meeting on the project in advance of its execution. The Town will direct mail street tree abutters to encourage their participation and prompt a conversation about siting tree plantings and to answer questions.

8. *Comprehensive Plan*.
This initiative implements six key Plan Action Items:

N1 Support the goals and strategies of RIDEM and Blackstone River Watershed Council's 'Blackstone River Watershed Action Plan' to protect water quality, including…ecological improvement projects.

N5 Promote the sustainable use of municipal…parks and other open spaces within Cumberland.

N6 Incorporate Best Management Practices…to limit stormwater runoff and enhance water quality.

N8 Fill the staff position of Tree Warden

N9 Implement the Valley Falls Urban Forest Master Plan.

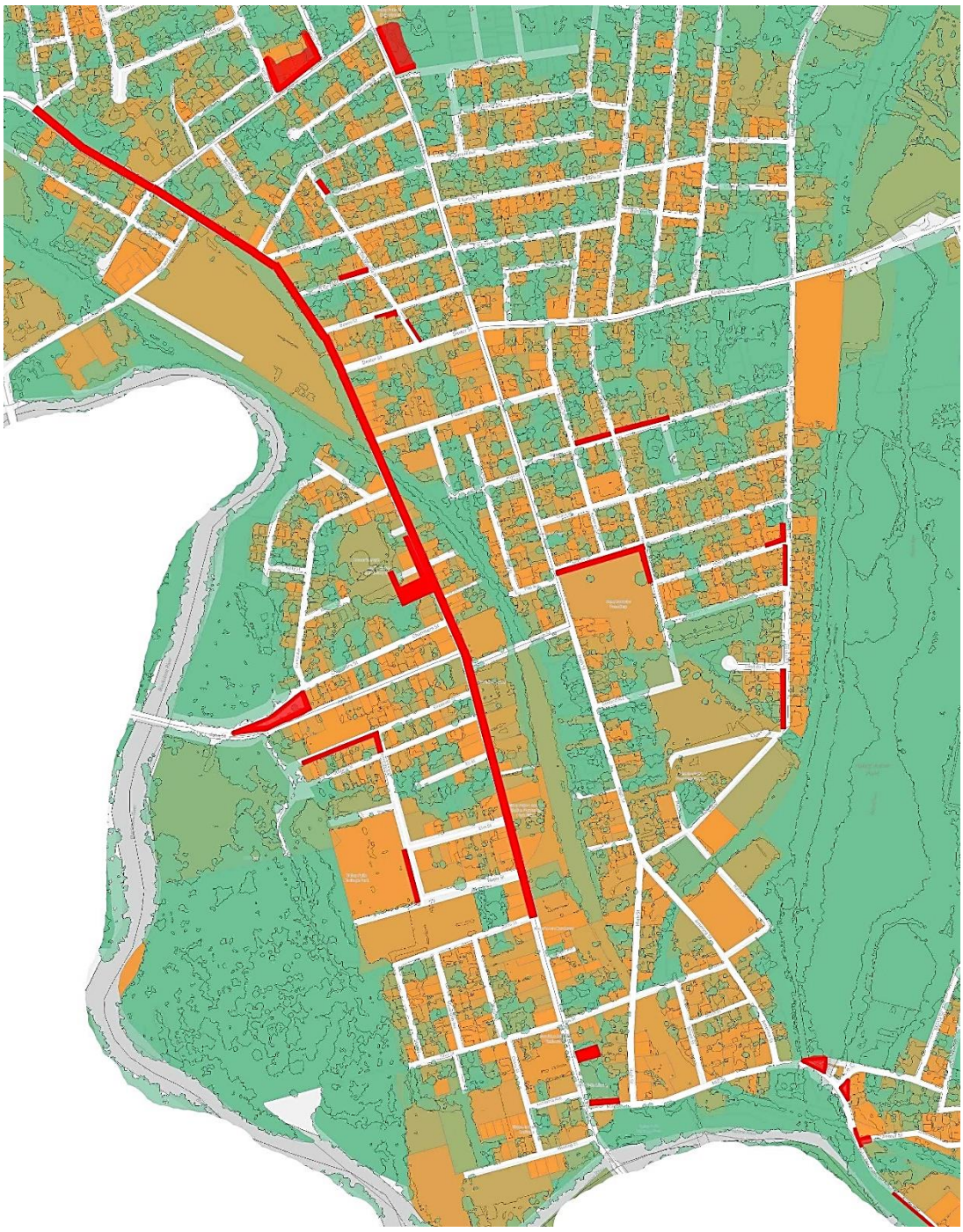
C8 Install…landscape vegetation and other place-making elements at gateways and public spaces.

Project Locations

rank	*location*	*Width x length*	*% canopy*	*# trees*
1	RIDOT locations – Broad St project	tree wells x 1 mile	n/a	16
2	Jones St (Winter to Macondary)	8' x 200'	0	5
3	Macondray St (Geldard to Elizabeth)	7' x 100'	0	2
4	52 Howe St	18' x 100'	0	2
5	Mill St at Ralco	20' x 80'	1	2
6	Macondray St (Maple to Elm)	7' x 200'	2	5
7	Chambers/ John St greenspace	480' x 40'-120'	5	32
8	29 Curran Rd (Ingram & Howe)	9' x 115'	7	3
9	Havens St to Candida (E side)	9' x 350'	9	9
10	Hewes (Howe to McGirr)	6' x 240'	9	15
11	McGirr (Hewes to High St)	6' x 500'	9	12
12	Macondray St N to Geldard	9' x 350' (W) 8' x 150' (E)	10	8
13	Elizabeth St (W of Macondray)	8' x 450'	11	10
14	29/31 Bowen St (S side)	6' x 150'	11	2
15	BF Norton School Front & interior	125', interior	13	14
16	Blackstone St Highway Garage	125' frontage x 175'	14	8
17	Ralco Way	10' x 280'	15	7
18	West Barrows (N side)	7' x 320'	15	8
19	Waterman (N side, Hewes to Kinsman)	7' x 200'	19	5
20	Ralco & Carpenter SE corner	15' x 30'	31	1
21	57 Waterman to Hewes	10' x 170' (S) 9' x 185' (N)	35	8
22	Mill St – Town Hall	Existing tree wells	41	2
23	Town Hall parking lot	30' x 140'	41	5
24	2 Old Whipple	7' x 70'	47	1
25	109 Mill St	20' x 100'	49	2
26	High Street Field	280' frontage, interior	55	10
27	53 Winsor	7' x 85'	65	2
total		8800' linear		196

*ranked by percent canopy cover (source: Tree Equity Score Analysis)

**Tree counts are strictly preliminary, based on one tree per 40 linear feet. Actual numbers will vary.



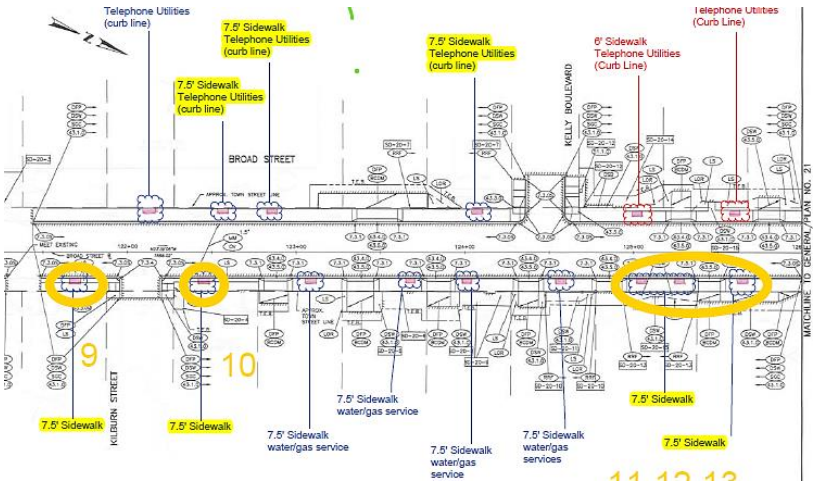
TESA map of Valley Falls (bottom) and Lonsdale (top). Planting areas are in red. Low TESA canopy areas are in orange and high areas in green.

Site Descriptions

1. RIDOT Broad Street Regeneration Project 5000 linear feet 16 trees

RIDOT's $18.5M Broad Street project includes a new road surface, new curbs and sidewalks, ADA improvements, bike lanes, upgraded drainage systems and traffic signals.

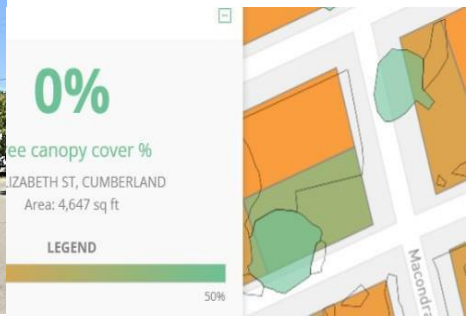
The project will be completed in the fall of 2022. At the Town's request, RIDOT installed extra tree wells for an additional 16 trees, on the condition that the Town is to plant these trees at its own expense. The RIDOT project manager has issued written authorization for these plantings.



Broad Street project section General Plan No. 20, north of B. F. Norton Elementary School. New Town-planted trees are to be located in tree wells demarcated by orang circles.

2. Jones St (Winter to Macondary) 200 linear feet (8' wide) 5 trees

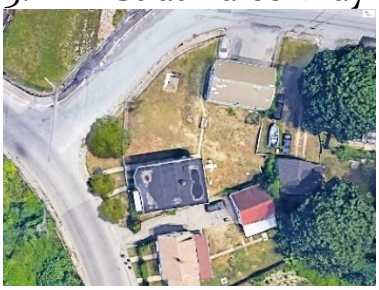
3. Macondray St (Geldard to Elizabeth) 100 linear feet (7’ wide) 2 trees

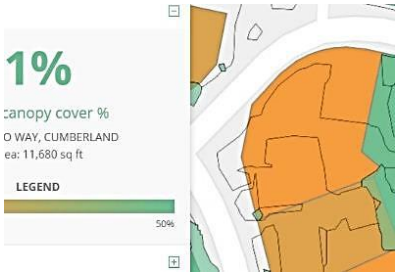


4. 52 Howe St 100 linear feet (18’ wide) 2 trees

5. Mill St at Ralco Way

80 linear feet (20' wide) 2 trees

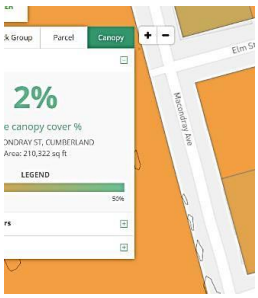




Before After

Species: Streetkeeper thornless honeylocust (*Gleditsia triacanthos var. inermis* 'Draves') H x 20'W
October Glory red maple (*Acer rubrum* 'October glory') 40-50' H x 35' W

6. Macondray St. (Maple to Elm) 200 linear feet (8 ft wide) 5+ trees

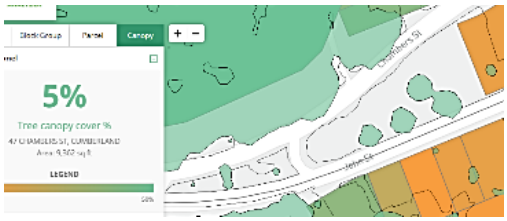


Before After

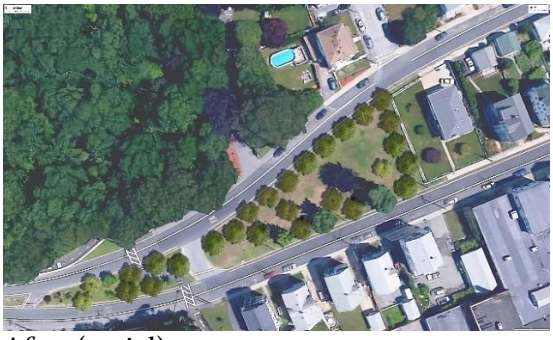
Species: American arborvitae (Thuja occidentalis 'Nigra') 20-30' H x 5-10'W

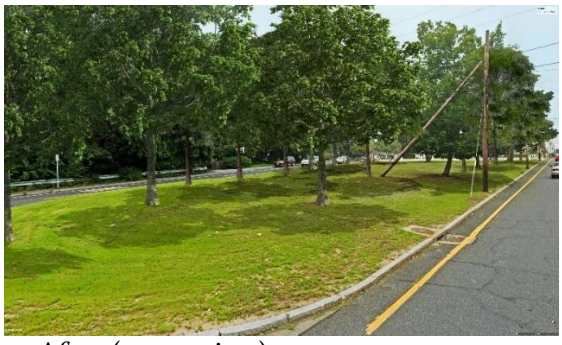
7. Chambers/John St Island 480 feet by 40-120 feet (30,000 sq. ft.) 32 trees

The Town has written permission from RIDOT to plant trees under the "Adopt a Spot" program.



Before

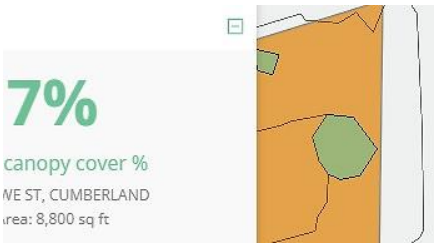




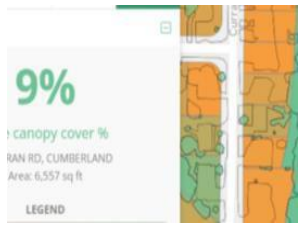
After (aerial) After (street view)

Species: October Glory red maple (*Acer rubrum* 'October glory') 40-50' H x 35'W
Shadblow/Serviceberry (*Amelanchier canadensis*) 20-25' H x 15-20' W
Pin oak (*Quercus palustris*) 60-70' H x 25-40' W
American hornbeam (*Carpinus caroliniana*) 20-40' H x 20-30' W
Black tupelo/black gum (*Nyssa sylvatica*) 30-50' H x 20-30' W
Ginkgo (*Ginkgo biloba*) 25-50' H x 25-35' W

8. 29 Curran Rd (Ingram to Howe) 9'x 115 linear feet (9 ft wide) 3 trees

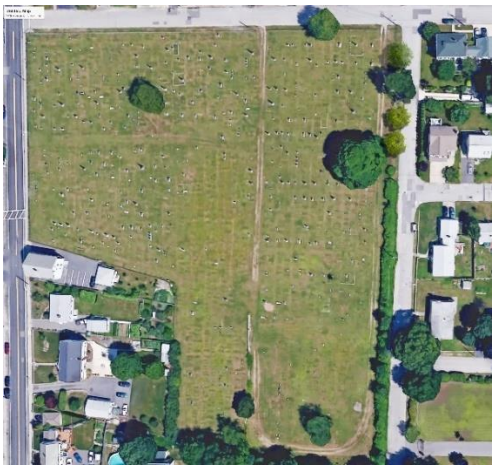


9. Havens Street to Candida (E side) 350 linear feet (9 ft wide) 9 trees



10. Hewes (Howe to McGirr) 634 linear feet (6 ft. wide) 15 trees

before



After (aerial) After (street view)

Species: Shadblow/Serviceberry (*Amelanchier canadensis*) 20-25' H x 15-20' W
Armstrong red maple (*Acer rubrum* 'Armstrong') 50-60'H x 15-25' W
American Hophornbeam (*Ostrya virginiana*) 25-40' H x 20-30' W

11. McGirr (Hewes to High St) 500 linear feet (6 ft. wide) 12 trees



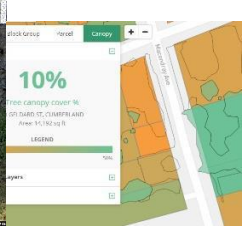
Before


After (aerial) After (street view)

Species: Eastern redbud (*Cercis canadensis)* 20-30'H x 25-35'W
Shadblow/Serviceberry (*Amelanchier canadensis*) 20-25' H x 15-20' W
Armstrong red maple (*Acer rubrum* 'Armstrong') 50-60'H x 15-25' W
American Hophornbeam (*Ostrya virginiana*) 25-40' H x 20-30' W

12. Macondray St N to Geldard (W side) 150 linear feet (9 ft. wide) 4 trees
(E side) 150 linear feet (8 ft. wide') 4 trees



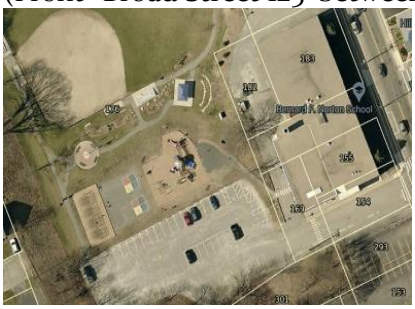


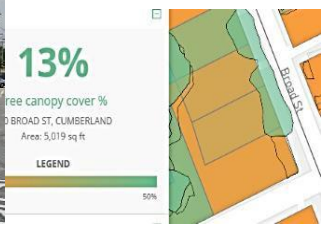
13. Elizabeth St (W of Macondray) 450 linear feet (8 ft. wide) 10 trees

14. 29/31 Bowen St (S side) 150 linear feet (6 ft wide) 2 trees

15. BF Norton School 14 trees

(Front- Broad Street 125' between evergreens – 2 trees Interior perimeter trees- 12 trees)

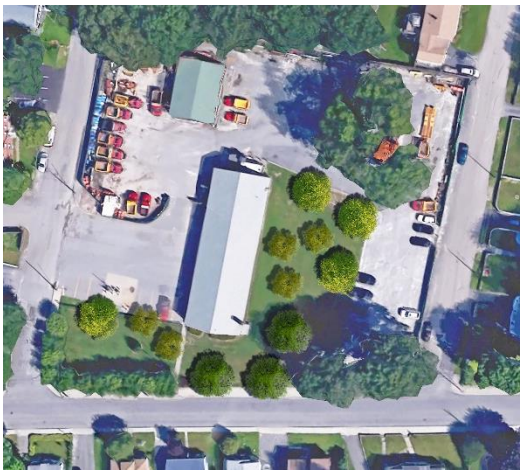




16. Blackstone St Highway Garage

13 trees

Before

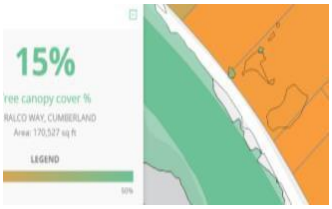


After (aerial) After (street view)

Species: Pin oak (Quercus palustris) 60-70'
October Glory red maple (Acer rubrum 'October glory') 40-50' H x 35' W
Tulip tree (Liriodendron tulipifera) 70-90'H x 40'W
Shadblow/Serviceberry (Amelanchier canadensis) 20-25' H x 15-20' W

17. Ralco Way

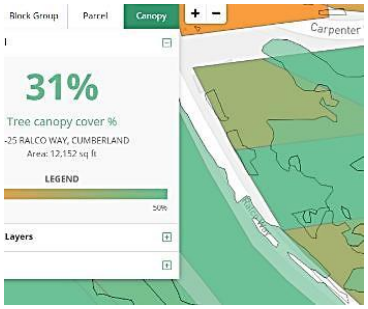
280 linear feet (10 ft. wide) 7 trees



18.West Barrows (W of Old Whipple, N Side) 320 linear feet (7 ft. wide) 8 trees

19.Waterman (N Side, Hewes to Kinsman) 200 linear feet (7 ft. wide) 5 trees

20. Ralco & Carpenter SE corner 15 feet by 30 feet (450 sq. ft.) 1 tree



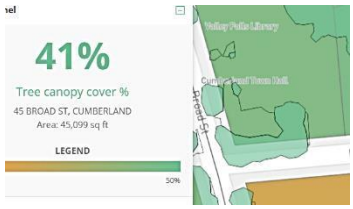
before

After (street view)

Species: medium-sized shrubs to fill in the space around single small tree.
American Hophornbeam (*Ostrya virginiana*) 25-40' H x 20-30' W
Eastern redbud (*Cercis canadensis)* 20-30'H x 25-35'W
Shadblow/Serviceberry (*Amelanchier canadensis*) 20-25' H x 15-20' W

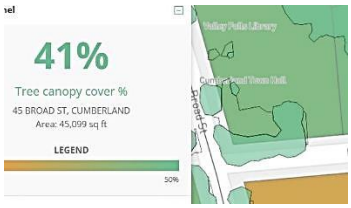
21. 57 Waterman to Hewes S side: 170 linear feet (10 ft. wide) 4 trees
N side: 185 linear feet (8 ft. wide) 4 trees

22. Mill St - Town Hall existing street tree wells 2 trees

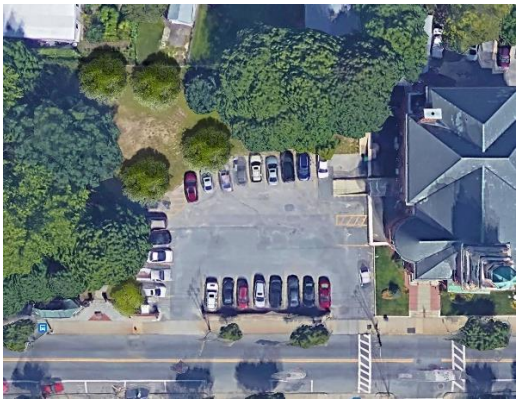



23. Town Hall Parking lot 30 feet by 140 feet (4200 sq. ft.) 5 trees





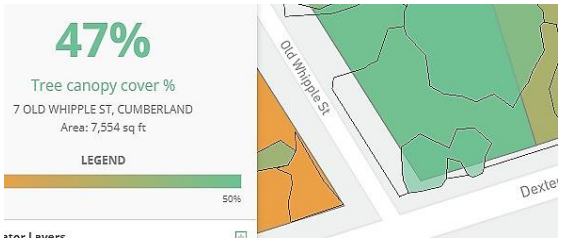
before



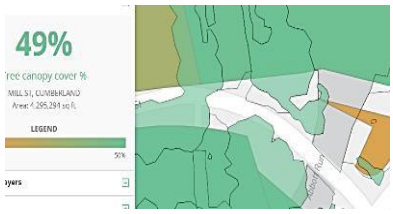

After (aerial view) After (street view)

Species: Pin oak (*Quercus palustris*) 60-70' H x 25-40' W
Shademaster thornless honeylocust (*Gleditsia triacanthos var. inermis* Shademaster') 45'H x 40'W
Ginkgo (*Ginkgo biloba*) 25-50' H x 25-35' W
October Glory red maple (*Acer rubrum* 'October glory') 40-50' H x 35'W

24. 2 Old Whipple 70 linear feet (7 ft. wide) 1 tree

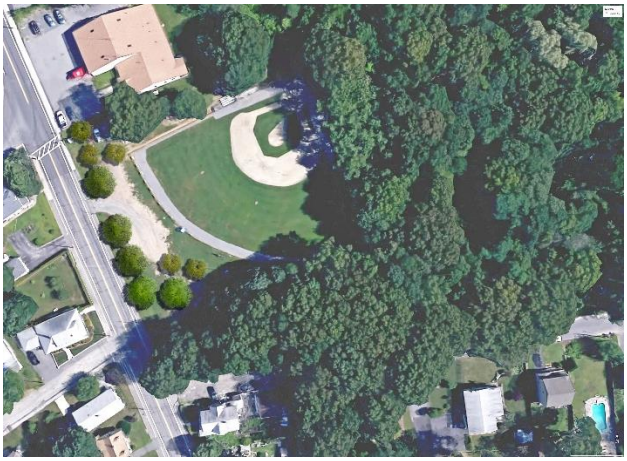
25. 109 Mill St 100 linear feet (15 ft. wide) 2 trees

26. High Street Field

frontage: 280 linear feet — 7 trees
lot interior — 3 trees


Before

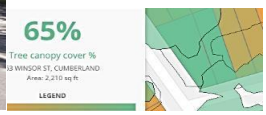



After (aerial view) After (street view)

Species
American hornbeam (*Carpinus caroliniana*) 20-40' H x 20-30' W
Shademaster thornless honeylocust (*Gleditsia triacanthos var. inermis* 'Shademaster') 45'H x 40'W
Pin oak (*Quercus palustris*) 60-70' H x 25-40' W
October Glory red maple (*Acer rubrum* 'October glory') 40-50' H x 35'W
Shadblow/Serviceberry (*Amelanchier canadensis*) 20-25' H x 15-20' W

27. 53 Winsor

85 linear feet (7 ft. wide) — 2 trees

Other Tree Specie Options

Some other great trees that are very large (too large for most sites, but could be used if the overall number of trees were reduced to fit).

White oak (*Quercus alba*) 60-100'H x 50-90'W
Red oak (*Quercus rubra*) 50-75'H x 50-75'W
American sycamore (*Platanus occidentalis*) 75-100'H x 75-100'W
Sugar maple (*Acer saccharum*) 60-70'H x 40-50'W
Sweetgum (*Liquidambar styraciflua*) 60-75'H x 40-50'W
Catalpa (*Catalpa speciosa*) 40-60' H x 20-40'W **messy
Kentucky coffeetree (*Gymnocladus dioicus*) 60-75'H x 40-50'W

Other columnar trees
Ginkgo biloba 'Fastigiata'
Acer rubrum 'Armstrong'
Ginkgo biloba 'Jade butterfly'
Quercus robur 'fastigiata'
Slender silhouette liquidambar
Franz Fontaine Hornbeam

USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

USDA Forest Service Eastern Region State and Private Forestry
Fiscal Year 2022 Landscape Scale Restoration Competitive Process
Request for Applications Project Narrative Form

Project Title: Provide a uniquely descriptive title for this project. Use this full title consistently on all submission communications and documents, including letters of support.

Planting Resilient Riparian Forests for Water Supply and Public Health in Under-Served RI Communities

Project Applicant: Enter the name of organization applying for Federal funding.

Groundwork Rhode Island

Program Contact: Name and contact information for lead project contact, i.e., for implementing the project if funded.

Name: Amelia Rose
Email: arose@groundworkri.org
Phone: (401) 305-7174

Brief Project Overview and Purpose: 5 lines of text or up to 540 characters and spaces with no carriage returns. Provide a brief overview and purpose statement for the project, addressing the Landscape Scale Restoration program purpose: "To encourage collaborative, science-based restoration of priority forest landscapes."

Four communities and forest, river, health and environmental justice NGO's will demonstrate how restoring resilient forests along the Blackstone River can improve water quality, reduce flooding and cool neighborhoods. We will add hundreds of trees to riparian areas and begin resilient forestry along a 15-mile stretch of an American Heritage River. This will be RI's first LSR grant. The landscape contains drinking water supplies, Health Equity Zones, Opportunity Zones, and is the focus of American Forests tree equity work.

Is this a multistate project (sponsored by more than one State)? ☐ Yes ■ No

If multistate, please select one:

☐ All Federal funds will go directly to the lead State or organization (applicant listed above). The lead State may pass funds to other States or third-party partners to implement components of the project. This is preferred.

☐ Federal funds will go directly to multiple States and/or partners, as indicated in the Budget Spreadsheet and outlined in the Project Description.

Is this a cross-regional project? (i.e., includes sponsors from Northeast-Midwest State Foresters Alliance States and from Western/Southern State(s)). ☐ Yes ■ No

Clearly and concisely respond to each section. For the longer sections we encourage you to include sub-headings, line spacing, and/or other formatting for ease of reading (rather than fill every line with words). You may format text in MS Word and then copy and paste it into this Form. Some text formatting is available in the PDF form, e.g., bold, underline, and italic. To format text in the Form: Highlight the text, right click, and select "Text Style."

Project Description

This field accommodates 46 full lines of text or up to 5,000 characters and spaces with no carriage returns.

Provide a comprehensive but succinct overview of the proposed project that includes basic details of who is doing what, where, and why (in context of need documented elsewhere). Clearly articulate the methods employed, timelines, and resources needed. Address the project's suitability as the most appropriate scale of response (local, statewide, multistate, or national) to the issue addressed. Projects should effectively address the purpose statement: "To encourage collaborative, science-based restoration of priority forest landscapes."

Groundwork Rhode Island with four communities, RI Department of Environmental Management (RIDEM) and Department of Health (RIDOH), American Forests, Blackstone watershed NGO's, consulting foresters and Clark University will implement a science-based tree planting and forest restoration effort along a 15-mile stretch of the Blackstone River and its watershed, one of 14 American Heritage Rivers and home to several drinking water supplies for a downstream city. PURPOSE: This project will significantly increase tree canopy in Environmental Justice (EJ) areas of four Blackstone River communities by hiring a tree planting coordinator and local seasonal crew, leveraging new tree planting projects via volunteers supported by municipal efforts and NGO's. This initiative is unique in its goal to improve public health via reduced air pollution and extreme heat as well as reduced stormwater pollution for drinking water supplies. The initiative will also provide job training and other local economic benefits. Clark University's modeling and monitoring will help focus tree planting in areas for maximum environmental benefits, documenting heat, air and water quality results. The project will add small private woodlands to the Forest Stewardship Program with a focus on watershed forest resilience and will work with focus communities to implement tree retention local ordinances. The initiative will serve as a model for other landscapes where health, equity, forest resilience and water supply protection overlap. PROBLEM STATEMENT: RI's unique Health Equity Zones (HEZ) highlight social and health challenges within our focus communities and are used to coordinate resources to advance public health, including by improving environmental quality. The high percentage of impervious cover in the focus areas result in stormwater runoff to the Blackstone River and drinking water reservoirs within the watershed. A comprehensive approach that addresses both upstream and downstream forest canopy is needed, including downstream tree planting and canopy retention and upstream resilient forestry practices for small woodlots. WHO and WHAT: Groundwork Rhode Island (GWRI) runs a successful landscape crew and is poised to further its tree planting efforts. American Forests (AF) will provide technical assistance, advice on tree planting and retention approaches and match funding. Municipal partners will support tree planting and pavement removal. A downstream municipality will provide technical assistance on forest stewardship to benefit its water supply. RIDEM will provide tree planting and retention expertise, and coordination of match funding for trees via the statewide Energy Trees program. RIDOH's local HEZ programs will assist with community outreach to gain volunteers and resident participants in tree planting and care, and be part of educational efforts to promote tree retention ordinances. The Blackstone Collaborative and Blackstone Watershed Council will bring expertise and volunteers to focus tree planting for best stormwater results. The Central Falls School District will connect schools and families to tree planting/care activities on and near school properties. WHEN: In year one, GWRI will hire a project coordinator and work with partners, as well as local residents and businesses, to locate tree planting opportunities. Plantings will begin in fall 2022, running through spring/fall 2023 and 2024, focusing on private property planting with resident volunteers committing to tree watering and care. GWRI will hire and train a tree planting crew; volunteers will participate in plantings as well. The partnership will continue beyond the grant, focusing on reducing climate impacts in under-served communities. AF and a local land trust will run landowner workshops with participation from professional foresters, resulting in 25 forest stewardship plans in the upper watershed. Tree retention ordinance work will begin in year one and culminate in year three with a local vote on the ordinance in at least two of the focus communities. WHY THIS LSR? The middle Blackstone watershed is a high priority for watershed and water supply restoration and includes under-served populations where forest restoration can improve health outcomes and reduce climate impacts. This project brings together adjacent communities that have not worked together before on a forest or watershed project. It also brings forest, watershed, EJ and health agencies and NGO's together for the first time. Tree planting for public health, watershed restoration and climate resilience is best addressed at this local/regional scale. AF and Clark bring extensive science-based, modeling and analysis to effectively plan and monitor tree planting efforts. This partnership will make a compelling case study for other regions on the rural-urban interface to demonstrate the value of expanding, protecting and restoring forest cover.

Priority Issues and/or Landscapes in the State Forest Action Plan (25 Points)

This field accommodates nearly 45 full lines of text or up to 5,000 characters and spaces with no carriage returns.

Projects will be based on an analysis within the State or region that identifies the issue or landscape being addressed as a priority in the State Forest Action Plan(s) or equivalent restoration strategy.

- Demonstrate focus on a significant issue and/or priority landscape in the respective State Forest Action Plan(s).
- Describe how the project will bring a State or region to a desired future condition, goal, or strategy as articulated in the respective State Forest Action Plan(s).

FOREST ACTION PLAN (FAP): This project will implement RIDEM's top three priorities in their 2019-22 Strategic Plan, contained in the FAP – 1) counter climate change effects, 2) create greener, healthier communities and 3) protect and improve water quality (FAP, page 101). This project will help to bring about these three important desired future conditions for a priority landscape in Rhode Island. The project will include mapping and modeling from AF and Clark University to demonstrate how expanding tree canopy can reduce heat island impacts. The non-federal match portion from Clark will provide student monitoring teams over two summers to document baseline and restored conditions and will be available to revisit sites in the future when new tree canopy has matured. Strategically expanding tree canopy near the river will also help improve the Blackstone River water quality which is impaired in these four communities (FAP, page 46). This project will also demonstrate how this approach can work in other landscapes in Rhode Island and in the region. The FAP strives to establish tree planting plans and goals and to support tree planting and care activities (pages 68, 90 and 104) and to encourage tree planting in low-moderate income communities with below average tree canopies (page 87). AF's Tree Equity Score Analyzer (TESA) shows that neighborhoods in all four communities have below average tree canopy cover. The FAP also has extensive focus on watershed protection and this focus landscape contains cold water habitat. The significant increase in future tree canopy along this 15-mile river section and its nearby watershed will have positive water quality and flood reduction benefits. As these communities contain Opportunity Zones, Health Equity Zones and are mapped as priority areas in TESA, this project will have significant benefits to EJ and under-served populations including reduced future heat island impacts, reduced flooding and improved air quality (especially for the high percentage of residents with respiratory conditions) (FAP pages 21, 22 and 102). The FAP cites a study that found a 2-degree F reduction in ambient air temperature for every 10% increase in urban tree canopy. By bringing nature into the yards of thousands of residents, this project will have multiple health and social benefits. This proposal also includes a forest stewardship component for small woodlots which the FAP acknowledges is important in the protection of water supplies (page 20 and 126) and as an objective to keep forests as forests (page 67 and 103). Enhancing the resilience of oak forests, as found in this landscape, is a goal of the FAP (page 56). Expanding forest stewardship is especially important because very few acres are enrolled in these four communities and targeting areas like this landscape to expand enrollment is a strategy for the FAP (page 82 and 84).

NATIONAL CONTEXT: This proposal supports the LSR objectives to "improve water quality and watershed function"; "improve forest ecosystems"; and to "measure ecological and economic benefits including air quality and soil quality and productivity". As a mapped priority area in the Forest Action Plan as a "Wildland-Urban Interface/Intermix", this is an important landscape to demonstrate how forest restoration on the rural-urban interface can have watershed and public health benefits, especially as climate impacts increase. The Blackstone River is an important tributary to Narragansett Bay, a nationally important estuary and the site of a National Corridor, an American Heritage River and a National Estuarine Program. This project will provide an important local success story for this larger priority watershed.

NARRAGANSETT ESTUARINE PROGRAM (NEP): The NEP released a new Blackstone River Needs Assessment Report (September, 2021) with extensive public input. The report lists expanding tree canopy as one of its #1 rated priorities and expanding job training for green infrastructure as its #3 project (of 20 recommended). The report also lists reducing impervious cover as a top priority. This project will include pavement removal for some of its tree planting activities. The report recommends expanding tree canopy cover focused on reducing heat island impacts and improving water quality. The report also recommends increasing river buffers as a top implementation priority. The report recommends the creation of a Blackstone River Watershed Collaborative, which has just been launched this summer via a new center at Clark University. The Collaborative is a partner in this project.

LSR Objectives the Project Addresses (select one or more):

Projects shall prioritize funding and other resources toward one or more of the national LSR objectives below. This is for reference and clarity and not for scoring purposes, e.g., strong projects that address one objective can score just as well as projects that address multiple objectives.

- ☐ Reduce the risk of uncharacteristic wildfires.
- ☐ Improve fish and wildlife habitats, including for threatened and endangered species.
- ☑ Maintain or improve water quality and watershed function.
- ☐ Mitigate invasive species, insect infestation, and disease.
- ☑ Improve important forest ecosystems.
- ☑ Measure ecological and economic benefits including air quality and soil quality and productivity.

Measurable Outcomes (35 Points)

Provide the output amount for at least one of the quantitative accomplishment measures listed below.
You may also list additional specific measurable results that show how the Federal investment will lead to outcomes on the landscape. *In the narrative section on the next page, describe less quantifiable return on investments.*

Quantitative Accomplishment Measures	**Output**	**Unit**
Acres treated to reduce hazardous fuels	0	Acres
Miles of riparian forest treated to enhance wildlife habitat	0	Miles
Acres treated to enhance wildlife habitat	0	Acres
Acres of trees and seedlings planted to enhance water quality	23	Acres
Miles of riparian forest treated to enhance water quality	2.8	Miles
Acres treated for insects and disease	0	Acres
Acres treated for invasive plants	0	Acres
Acres of silvicultural practice exclusive of other reported treatments	75	Acres
Acres under new forest management plans	455	Acres
Private landowners reached through technical assistance in more than one interaction, who have benefited in some significant and lasting way	25	# of People
Tons of forest products produced (biomass)	0	Tons
Board feet of forest products produced (timber)	0	Board feet
Residents with a newly planted tree within 50 feet of their home	2,000	# of People
Gallons of stormwater runoff reduced per year	1.2 Million	Gallons
Volunteers, job training students, paid crew, and residents engaged in tree planting/care	1,008	# of People
Acres where tree planting will have a measurable effect on health or peak heat reduction	1,000	Acres

Measurable Outcomes Narrative

This field accommodates nearly 45 full lines of text or up to 5,000 characters and spaces with no carriage returns.

Describe how project outcomes will result in science-based restoration of priority landscapes.
To complement the table above, also describe less quantifiable return on investments.
Reviewers will assess if outcomes are commensurate with the budget.

MAXIMIZING RETURN ON FEDERAL INVESTMENT: By selecting this priority landscape and the partners involved, the team will deliver a significant return in several areas. Neighborhood tree planting and protection of existing trees will yield significant health benefits related to reduced heat island impacts, especially for residents with respiratory conditions (see Alcock et al 2017, Lovasi, 2008, Donavan et al 2018 and Ulmer et al 2016). Riverine tree planting and pavement removal will mean significant returns for reducing stormwater pollution. Tree planting by a certified arborist will follow the "Guidance for Preparing Project Proposals for Landscape Tree Planting in the USDA Forest Service – Eastern Region". The NIACS urban tree planting species menu for climate-adapted species will be utilized and NIACS will provide technical assistance on species selection. Each resident or business accepting a planted tree will sign a two-year watering and tree protection agreement. Modeling and assessment by Clark University and American Forests will maximize the value of each tree planted for human health and watershed goals. Plantings will follow the above USDA guidance to assure each tree has a significant public benefit. Outreach and forest management planning for small, private woodland owners in the landscape will create a model for landscapes where parcelization is making forest restoration challenging. Offering climate resilient forestry practices is of interest to landowners with smaller parcels on the edge of urbanized areas and will increase the path to conservation of some of the most threatened and important forests in the northeast.
PROJECT ADMINISTRATION: Groundwork Rhode Island has successfully administered many federal grants (EPA and others) involving complex partnerships and community involvement. GWRI and AF are currently working on tree planting near this landscape and have experience working together to successfully administer projects with multiple partners and provide detailed reporting of federal and non-federal expenditures.
COMPREHENSIVE APPROACH: This project offers a model that improves forest and landscape resilience with a three-pronged approach: strategic tree planting, tree protection, and forest resilience planning and practices in a landscape along a nationally significant river.
LESS QUANTIFIABLE RETURN ON INVESTMENTS: This project brings many partners with diverse interests together on a forest restoration project – environmental justice, economic development, health, river and forest. The four riverside communities will work together on a forest project for the first time. Together this diverse partnership can best reach hundreds of residents within the landscape to engage them with forest projects. Working in rural communities on the edge of urban areas means that forest restoration benefits and involves more people and develops more future support for forest restoration projects in the landscape. This project will be an example of creating local jobs and job training opportunities focused on urban forestry for residents living in impacted communities.
REFERENCES: 1) Land cover and air pollution are associated with asthma hospitalizations: a cross-sectional study: https://www.sciencedirect.com/science/article/pii/S0160412017304026?via%3Dihub; 2) Children living in areas with more street trees have lower prevalence of asthma: https://pubmed.ncbi.nlm.nih.gov/18450765/; 3) Blackstone River Watershed Needs Assessment Report: https://static1.squarespace.com/static/5eea260cea828333324dba1c/t/61487fddb2c8c0172dc807fa/1632141278895/Blackstone+River+Watershed+Needs+Assessment_final+for+web.pdf; 4) Healthy Forests for our Future (TNC and NIACS 2021): www.nature.org/climatesmartforestsne; 5) An integrated tool to assess the role of new planting in PM10 capture and the human health benefits: A case study in London: https://www.sciencedirect.com/science/article/pii/S0269749109002255; 6) Urban woodlands: their role in reducing the effects of particulate pollution https://www.sciencedirect.com/science/article/pii/S0269749198000165; 7) Tree and forest effects on air quality and human health in the United States: https://www.sciencedirect.com/science/article/pii/S0269749114002395

Collaboration and Integrated Delivery (20 Points)

This field accommodates 27 full lines of text or up to 3,000 characters and spaces with no carriage returns.

- Identify partners that have demonstrated a commitment and add value towards planning and carrying out the project, and describe what these partners contribute.
- Seek to improve the delivery of public benefits from forest management by coordination with or proximity to complementary State and Federal programs and partnership efforts when possible, e.g., Collaborative Forest Landscape Restoration Program, landscape areas designated for insect and disease treatments, Good Neighbor Authority, stewardship contracting projects, Natural Resources Conservation Service programs, Shared Stewardship agreements, and appropriate state-level programs.
- Describe land ownerships for the project area and cross-boundary goals, which can include a combination of Tribal, State, local government, and private land ownerships, e.g., multiple private landowners, private and State landowners, State and Federal landowners, State and local government, State and Tribal landowners, etc..
- Demonstrate residual positive benefits, as a result of collaboration, related to capacity, skills, knowledge, infrastructure, or a replicable approach, among others.

Collaboration may be qualitative in nature, and the contribution of the partners may be more important than the number of partners involved.

For the past year, Groundwork Rhode Island (GWRI) and American Forests (AF) have worked together in a nearby area on tree planting to provide equity to underserved neighborhoods. AF recently launched its Tree Equity Score Analyzer (TESA), a state-of-the-art GIS mapping tool that helps determine where trees should be planted at the parcel scale to address social equity while measuring environmental benefits. GWRI as well as municipal staff from all of this project's focus communities have used TESA and begun to create their own Tree Equity strategies, a foundation this project will build upon. GWRI will utilize its GroundCorp landscape crew's on-the-ground work in the four focus communities to coordinate forestry expertise from AF, as well as from RIDEM and NIACS into this project. These groups will bring expertise in training of crews and volunteers, providing of trees and selection of climate adapted species. Two of the four communities will provide non-federal, in-kind support for developing and adopting tree protection ordinances, pavement and soil disposal, tree planting site selection and outreach. Clark University will provide students to monitor the baseline and future conditions for heat island, stormwater runoff and air quality and provide GWRI training in this monitoring. Their summer program will assist with outreach and community involvement. American Forests, Sweet Birch Consulting and the Cumberland Land Trust will provide woodland owners workshops and coordination of forest management planning geared toward resilience in partnership with NIACS and local consultant foresters. Sweet Birch will also provide a nexus to NRCS forestry practice cost share for landowners with their experience in the adjacent Southern New England Heritage Forest RCPP grant. The Pawtucket Water Supply Board will provide technical assistance on forest stewardship woodlots. The Blackstone River Watershed Council will provide volunteers for tree planting and site selection for riparian plantings. The Collaborative will provide technical assistance for the development of the municipal tree protection ordinances and venues for presenting lessons learned across the region. The Health Equity Zone partners will bring expertise in community involvement and how forests can help priority heath issues. This project brings together organizations with expertise in forest and watershed management, community involvement and health, and workforce development and job training (GWRI). This project is an excellent pilot for landscapes on the urban fringe where development threatens forests, rivers, and public health. Therefore, this project is very replicable in other similar areas where diverse partners can work together and add value to traditional projects. This project will have benefits for the landscape after the completion of the grant by building the capacity of this diverse partnership in the landscape to continue to expand tree planting, tree protection and forest restoration management.

Leverage (10 Points)

This field accommodates 15 full lines of text or up to 1,625 characters and spaces with no carriage returns.

Projects should maximize S&PF funding by using it to leverage contributions from both Federal and non-Federal entities. Project applications need to clearly identify the LSR Competitive Allocation funds requested and the associated non-Federal contributions in the SF-424A and Budget Spreadsheet. Provide details about leveraged contributions, including match from partners and additional non-match leveraged contributions. Note: Collaboration with a for-profit Conservation Finance partner can be a powerful leverage multiplier, but this requires careful budget segregation to ensure Federal grants are not earning income.

This is RI's first LSR application and the collaboration required to provide match shows the team's commitment and enthusiasm. GWRI's Green Team youth program, funded by private foundation grants, will provide summer tree watering and community outreach. GWRI's adult job training student labor will also be included as match for tree planting activities. GWRI will organize resident volunteers as well. A portion of the trees to be planted will be funded by GWRI through private grants, and another portion via RIDEM's Energy Trees. AF will provide additional tree planting cash resources. In-kind staff support will be provided by two communities for pavement/ soil disposal, site approval, tree protection ordinance support, community outreach for tree location and tree planting. Central Falls Schools will promote the project to schools, students and families, and maintenance/ watering support at individual schools. AF and RIDEM will provide in-kind staff support for tree selection, planting locations and tree care, though RIDEM's participation cannot be counted as match. NIACS will provide consulting advice on species selection for climate adaptation (non-match as this is federal funds). Clark University will provide five students for two summers to do project monitoring for heat island, water and air quality, outreach for the project and training of GWRI program participants on monitoring techniques as a job training benefit. The Blackstone River Watershed Coalition and Association will provide volunteers for tree planting and assistance in riparian tree planting locations. The Coalition will also help with developing tree protection ordinances.

Knowledge and Technical Transfer (10 Points)

This field accommodates 15 full lines of text or up to 1,625 characters and spaces with no carriage returns.

Technical transfer is defined as the sharing of knowledge, tools, and innovations for practical application. As specifically as possible, describe how others will learn from the work done on this project. Describe the project's potential to inform practitioners and enhance the effectiveness of similar initiatives. Knowledge and technical transfer need not necessarily be between States, but should aim to share innovation across the landscapes of importance wherever it can be utilized. Projects should include a component of outreach, training, lessons learned, or related opportunities so that carrying out the project results in skills and capability that extend beyond the life of the grant.

This proposal includes local, regional and national partners which will allow multiple channels for transferring the knowledge gained to similar landscapes. American Forests, NIACS, the Collaborative and Clark University all will present this case study in multiple channels. The Clark "HERO" summer program which will assist in monitoring regularly presents its results each year. GWRI will present this case study within the nation-wide Groundwork USA network and other health and social justice venues, including the statewide Health Equity Zone network, which is becoming a national model in and of itself as a strategy for place-based public health promotion. GWRI will also present this project and its findings/results within the RI Green Infrastructure Coalition and EPA Southern New England Program (SNEP) network, both of which GWRI is a member, with particular emphasis on the watershed and drinking water source protection benefits of forest preservation and tree canopy enhancement. As this is RI's first LSR grant, RIDEM will be able to use this project as a replicable model to work with other communities on landscape scale forest restoration, tree planting and tree protection initiatives. The team will plan a webinar summarizing the successes of this landscape initiative to other similar forested networks on the urban fringe within the New England and New York region.