Invasive Plant Control, Inc.
PO Box 50556
Nashville, TN 37205
(615) 812-5313
lee@ipc-inc.org

April 4, 2019

Peter W. Schneider, Water Quality Supervisor
City of Greensboro
Stormwater Management Division
2602 South Elm-Eugene Street
Greensboro, North Carolina 27406

Dear Mr. Schneider:

Thank you for giving Invasive Plant Control, Inc. (IPC) the opportunity to put together the enclosed proposal for the management ***for*** **Vegetative Maintenance Services associated with the Stream Corridor Reforestation Project**. IPC is one a few the companies in the United States whose **sole** purpose is the management of invasive plant species nationwide. Invasive plant management requires remarkably different methodologies than traditional vegetation management. Focusing specifically on invasive plants has allowed Invasive Plant Control, Inc. to become one of the nation's leading private entities for controlling invasive plants.

Since its inception as a national company in 1997 Invasive Plant Control has controlled invasive species from the Virgin Islands to the Adirondack Mountains of New York. The company is owned and operated by Lee Patrick and Steve Manning. IPC strives to provide the highest quality service and maintain long-term relationships with all of its clients. We are proud of all the work we have completed in the past and recommend you contact the references located in the appendices or the proposal.

IPC will be available to meet April 27 – May 1, 2015 for a potential consultant interview. If you have any questions please do not hesitate to contact myself (615-812-5313) or Steve Manning (615-969-1309).

Thank you again!

Warmly,

Lee Patrick
Vice President

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Technical Proposal

Maintenance Services to be Provided

Although the list below has been noted for treatment in following years of the **Stream Restoration Project**, other plants listed by the NC Exotic Pest Plant Council (NC-EPPC) to be invasive will be considered for treatment once consultation with Greensboro staff has been alerted. A list of North Carolina invasive pest plants can be found at http://nc-ipc.weebly.com/nc-invasive-plants.html

- Autumn olive (*Elaeagnus umbellate*)
- Bradford pear (Pyrus calleryana 'Bradford') *added 2008
- Bush honeysuckle (*Lonicera species*)
- Chinese Privet (*Ligustrum sinensis*)
- English ivy (*Hedera helix*)
- Japanese honeysuckle (*L. japonica*)
- Japanese hops (*Humulus japonicus)*
- Japanese privet (*Ligustrum japonica*)
- Japanese stilt grass (*Microstegium vimineum*)
- Johnson grass (*Sorghum halepense*)
- **Lesser celandine (*Ficaria verna*) *Alert: *F. verna* is considered an early detection/rapid response species. It has been identified on www.eddmaps.org as occurring in one location in Guilford County (Bog Garden at Benjamin Park). Upon surveying the sites in preparation for the RFP Proposal, *F. verna* was identified in Gillespie GC and Starmount.**
- Mimosa (*Albizia julibrissin*)
- Multiflora rose (*Rosa multiflora*)
- Porcelainberry (*Ampelopsis brevipedunculata*)
- Princess tree (*Paulownia tomentosa*)
- Rose of Sharon (*Hibiscus syriacus*)
- Tree-of-heaven (*Ailanthus altissima*)
- Winter creeper (*Euonymus fortunei*)

These species are considered by the Southeast Exotic Pest Plant Council to be extremely invasive or at least has the potential to become invasive within natural areas.

While the above-mentioned plants have been treated, seed banks and minimal resprouting will occur. Invasive plant control for 2019 – 2021 will consist of a spring and a fall treatment , while 2020 will have a single summer treatment, which will include foliar treatment of all species and cut-stump treatments of remaining Mimosa, Porcelain berry, Oriental bittersweet, Bradford pear, and other invasive trees and shrubs.

IPC recognizes that individual pest plants species may have different treatment methods and should be considered on an individual bases according to a variety of variables, including intensity, size of plant, plant type, chemical susceptibility, and seasonality. IPC

proposes the following management practices to maintain acceptable control of the invasive plants and to promote the growth and regeneration of the native species.

TREATMENT RECOMMENDATIONS

Invasive Plant Control, Inc. bases its management on an Integrated Pest Management approach (IPM). IPM is the use of several management tools to reduce the use of herbicides while achieving a high rate of success. Reducing the use of herbicides is most often achieved not through elimination of chemicals, but instead through the application method. Understanding the difference between the natives and non-native plants allows our employees to be target specific. Utilization of the best equipment on the market and hiring staff that are highly educated in the field of natural resources reduces wasted product and the combination of mechanical and chemical tools allows for a more specific control of undesirable species.

*All chemicals used in this project are labeled for aquatic use. The chemicals of preference will be Rodeo (or glyphosate equivalent) or Garlon 3A (triclopyr). If there is any change as to the preferred chemical usage, the contracting officer will be notified and acceptance be granted before treatment is to begin.

**Due to the nature and sensitivity of the stream bank stabilization and erosion, IPC recommends that grubbing of plants be prohibited or at least limited in scope.

Details on work schedule: There will be a 2 to 3 person crew at the sites the majority of the time.

A preliminary schedule is as follows:

Activity	June 2019	Sept 2019	May 2020	Sept 2020	May 2021	Sept 2021	May 2022
C&T trees	**X**	**X**	**X**		**X**		**X**
C&T vines	**X**	**X**	**X**		**X**		**X**
C&T shrubs	**X**	**X**	**X**		**X**		**X**
FT	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Chipping	**X**	**X**	**X**		**X**		**X**

BB = basal bark
C&T = cut & treat
FT = foliar treat

Weather will be a factor in determining the method of treatment or if treatment can even occur. IPC will not treat vegetation in the event of rain. IPC has the ability of treat up to the point of rainfall with a special surfactant that is rain-fast immediately after application. It would be optimal to be removing debris in the times of rain.

Drought is also a consideration and may hinder the effects of the treatments. Once there is a drought concern, the contracting officer and Lee Patrick will have to consider acceptable results or rescheduling.

Autumn olive (*Elaeagnus umbellate*):

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 50% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Bradford pear (*Pyrus calleryana* 'Bradford')

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 50% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Chipping: All material cut will be chipped and spread out on site within two weeks of being cut.

Bush honeysuckle (*Lonicera species*):

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately

(within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Chinese Privet (*Ligustrum sinensis*)

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

English ivy (*Hedera helix*)

Ground cover: Due to the evergreen nature of English ivy, the most optimal treatment timing will be in the dormant season of most deciduous plants. This will eliminate the possibility of non-target mortality and still perform acceptable control requirements. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be a low volume rate of 4-5% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Vines ascending trees: This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The vine will be cut by lopping shears as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Japanese honeysuckle (*L. japonica*):

Low vines: Due to the semi-evergreen nature of Japanese honeysuckle, the most optimal treatment timing will be in the dormant season of most deciduous plants—particularly in late fall. This will eliminate the possibility of non-target mortality and still perform acceptable control requirements. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be at 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Vines ascending trees: This application can be preferred as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The vine will be cut by chainsaw or brush-cutter as close to the ground as possible

not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Japanese hops (*Humulus japonicus)*

The treatment window for Japanese hops is narrow since it is an annual weed. Treatment should be in late-summer (Aug-Sept) before flowering. Foliar treatments of a glyphosate at 2% will be adequate to kill the plant before it has a chance to set seed.

Japanese privet (*Ligustrum japonica*)

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye

Japanese stilt grass (*Microstegium vimineum*):

Being an annual grass, there are two ways to approach control of *Microstegium*: (1) weed-eating or (2) chemical treatment.

Weed-eating: At the end of the growing season (September) as the plant is flowering cut the grass. This will eliminate the seed dispersal for the season. Follow-up treatments are essential, as the seed-bank has been reported to stay viable for over 8 years.

Chemical treatment: Chemical treatment would be the most efficient tool to control the spread of *Microstegium*. A grass specific chemical, such as sethoxydim, is normally recommended to control this grass, but it is not recommended to be used near water. IPC will use a rate of 2% glyphosate with addition of a surfactant and blue dye. This method can be performed 2 or 3 times during the growing season and deplete 2-3 years of seed-bank.

Johnson grass (*Sorghum halepense*):

Prior to seed development (June-July) when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of

application will be 2% glyphosate with the addition of a surfactant and marker dye.

Lesser celandine (*Ficaria verna*)

Lesser celandine is an herbaceous spring ephemeral that flowers in February and March. Once flowered, it dies back until the following spring. Therefore treatment times have a very limited window and will need to be treated with a 1% solution of Rodeo.

Mimosa (*Albizia julibrissin*)

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5-15 feet tall: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be administered as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Large trees: To reduce resprouting and non-target mortality, IPC will basal-bark larger trees. This application can be administered at any time of the year. The entire circumference of the trunk will be treated from the root collar to approximately 12 inches in height using 25% Garlon 4 and a horticultural oil. This treatment methodology will be done away from the stream bank.

Multiflora rose (*Rosa multiflora*):

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Porcelain berry (*Ampelopsis brevipedunculata*):

Low vines: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2.5% triclopyr with the addition of a surfactant and marker dye.

Vines ascending trees: This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The vine will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Princess tree (*Paulownia tomentosa*):

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5-15 feet tall: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be administered as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Large trees: To reduce resprouting and non-target mortality, IPC will basal-bark larger trees. This application can be administered at any time of the year. The entire circumference of the trunk will be treated from the root collar to approximately 12 inches in height using 25% Garlon 4 and a horticultural oil. This treatment methodology will be done away from the stream bank.

Rose of Sharon (*Hibiscus syriacus*):

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5 feet and taller: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately

(within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Tree-of-heaven (*Ailanthus altissima*):

Under 5 feet: During the active growing (June-September) season when translocation is occurring a foliar application will be implemented. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be 2% glyphosate or triclopyr with the addition of a surfactant and marker dye.

5-15 feet tall: To reduce non-target treatment from spray drift, IPC will cut-and-treat the stump. This application can be administered as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The stem will be cut by chainsaw or brush-cutter as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 50% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Large trees: To reduce resprouting and non-target mortality, IPC will basal-bark larger trees. This application can be administered at any time of the year. The entire circumference of the trunk will be treated from the root collar to approximately 12 inches in height using 25% Garlon 4 and a horticultural oil. This treatment methodology will be done away from the stream bank.

Winter creeper (*Euonymus fortunei):*

Ground cover: Due to the evergreen nature of winter creeper, the most optimal treatment timing will be in the dormant season of most deciduous plants. This will eliminate the possibility of non-target mortality and still perform acceptable control requirements. The treatment will be applied with backpack sprayers or an AVT/Gator mounted spray rig in heavy infestations. The rate of application will be a low volume rate of 4-5% glyphosate or triclopyr with the addition of a surfactant and marker dye.

Vines ascending trees: This application can be performed as long as the ground is not frozen with special limitations in early spring as bud-swell and flushing begin. The vine will be cut by lopping shears as close to the ground as possible not to exceed 2 inches in height. The stump will be treated immediately (within 20 seconds) with a solution of 25% glyphosate or triclopyr with the addition of a surfactant and marker dye.

DISPOSAL RECOMMENDATIONS

All large debris will be chipped on-site and spread out to eliminate piling.

EDUCATIONAL EFFORTS

IPC understands the importance of good communications with the citizenry of Greensboro. IPC staff is always available to communicate the scenario in a professional and yet easy to understand language to the community. All IPC staff are college trained individuals that have training in natural resources and can provide detailed information to Greensboro citizenry concerning the rehabilitation efforts. In order to provide a level of acceptance and understanding, IPC will provide movable signage explaining the management of the vegetation along the riparian corridor.

IPC, in addition to City provided educational material, can distribute literature concerning invasives and websites for those interesting in the subject.

IPC is available to do a presentation/workshop for the City employees so that once the management is in the later stages; in-house staff can be handed over the job.

Deliverables

IPC will provide a brief Quality Assurance/Quality Control plan to the contracting officer representative within 10 business day of the Notice to Proceed. This plan will be discussed and approved by both parties before treatment is administered. IPC will also provide "Daily Site Sheets" (see Appendix A) utilizing *IPCConnect*. *IPCConnect* is an online data system that enables the Greensboro Water Resources Department to have real time notes on the sites IPC is currently working. A final report will be issued upon the completion of the project. These reports will advise Water Resources of the personnel, the number of hours at the site, the methodologies performed (pruning, invasive plant control, chipping), chemicals used and the amounts.

Upon completion of the project there will be an 85% mortality rate on the invasive pest plants treated. (IPC is not responsible for *seed germination* of invasive pest plants after year two treatment). Constant and continual monitoring is essential due to the availability of seeds that will be dispersed by water flow, animal dispersion, and weather.

Also, there will be dead vines hanging from certain trees that were cut but not pulled from the tree. This is due to the nature of the vines IPC will be controlling, by pulling the vines out of the trees more damage will be done to the branches and limbs than would be acceptable. The vines will be left to decay and can eventually be pulled out if necessary on later dates by volunteers or in-house staff.

Project Team and Project Management

Invasive Plant Control, Inc.
Steve Manning, President
Lee Patrick, Vice President
Vance Brown, Regional Supervisor
Maria Burger, Team Lead
Loni Jean Rodrigo, Team Lead

(Please see attached resumes and proof of pesticide applicator certifications in Appendix B).

The project team will consist of **Steve Manning**, who will be in charge of all the administrative business concerning accounts receivable and legalities. He will be the person to sign the contract. **NC Ground Pesticide Applicator (Cat. H) # 026-23764**

Lee Patrick is in charge of the operations of IPC throughout the country and will be the setting up operations for the Stream Corridor Restoration Project. Lee Patrick will be responsible for the deliverables to be completed in a timely, organized, and acceptable manner. **NC Ground Pesticide Applicator (Cat. A) # 026-22721**

Vance Brown will be the Regional Supervisor and will be the immediate contact person. He will be responsible for scheduling and advising the contracting officer of future plans. Martin will be in charge of the crew and will insure that the results are satisfactory with the officer and the general public. **NC Ground Pesticide Applicator (Cat. E, L) # 026-33758**

Maria Burger is an IPC Team Leader and will be acting as Team Lead/Technician. **NC Ground Pesticide Applicator – In Process**

Loni Jean Rodrigo is assistant IPC Team Leader and will be acting as an alternate Team Lead/Technician. **NC Ground Pesticide Application – In Process**

References

Rebecca G. Thomson
Natural Resource Specialist
Army Corps of Engineers - Falls Lake
11405 Falls of the Neuse Road
Wake Forest, NC 27587
919-846-9332 X2229

Rod Simmons
Natural Resource Specialist
City of Alexandria, VA
2900-A Business Center Dr
Alexandria, VA 22314
(703) 746-4651

Erin Stockschlaeder
Ecologist II
Invasive Management Area Program Coordinator
Early Detection and Rapid Response Coordinator
Natural Resource Management and Protection
Fairfax County Park Authority
12000 Government Center Parkway, Suite 449
Fairfax, VA 22035
(703) 324-8681
Erin.Stockschlaeder@fairfaxcounty.gov Other references upon request.

Preliminary Cost Estimate

Chart 1: Cost Estimate for 39 Parks					
Task	**Year 1 (2 Treatments)**	**Year 2 (2 Treatments)**	**Year 3 (2 Treatments)**	**Year 4 (1 Treatment)**	**Cost per**
	# Man-hours/ac	*# Man-hours/ac*	*# Man-hours/ac*	*#Man-hours/ac*	*Man-hour ($)*
Spraying twice per/yr	6	6	6	3	$ 77.41
Cut and treat	0	0	0	0	$ 77.41
Chipping	0	0	0	0	$ 77.41
Education	0.05	0.05	0.05	0.05	$ 77.41
Total # of Man-hours	6.05	6.05	6.05	3.05	
					Total Lump Sum$
Total $ per year	**$ 41,962.41**	**$ 41,962.41**	**$ 41,962.41**	**$ 21,154.60**	**$ 147,041.84**

Appendix A (Daily Site Sheet)

Greensboro Stream Corridors

Contact Name:	Peter Schneider
Address:	
Phone:	3363732737
Record Date:	Oct 2, 2014
Time:	7:00 AM - 6:00 PM
Total Man Hours:	22
Area Treated:	27.4847663325 acres
Density:	Light 1 **[2]** 3 4 5 Dense
Slope:	Flat 1 **[2]** 3 4 5 Steep
Notes:	Other = prep/mixing Shannon Woods, Shannon Hills, Greenhaven, Rolling Roads, Greentree, Hannaford, Woodlea, Hampton

	AM	**PM**
Temperature	65°F	83°F
Sky Conditions		Partly Cloudy
Wind Conditions	1-5 mph	6-10 mph

Crew Members

	Hours	**Certification Num**
Martin Clark *(Leader)*	11	026-23764
Vance Brown	11	

Methods Used

Foliar - ATV/UTV

Foliar - Backpack Sprayer

Species Treated

Asiatic dayflower
autumn olive
big periwinkle
bush honeysuckles (exotic)
Callery pear (Bradford pear)
Chinese holly
Chinese privet
Chinese wisteria
Chinese yam
English ivy
glossy privet
Japanese honeysuckle
Japanese hop
johnsongrass
mimosa
monkeygrass
morning glory
mugwort
mullein
multiflora rose
nandina
oriental bittersweet
Oriental lady's thumb
perilla mint
porcelain-berry
purple crown-vetch
rose of Sharon
sericea lespedeza
sweet autumn virginsbower

Chemicals Used

EPA #	Brand Name	Total Solution	Rate	% Solution	Surfactant	Dye
62719-37	Garlon 3A	1 pints		25		Bullseye
42750-61-72693	Gly-4 Plus	200 gal		2		Bullseye
42750-60	Glystar Original	1 gal		5	Attach	Bullseye

Polygons

3.27822 acres or 142,799 sq feet @ ~ (36.04962, -79.765505)

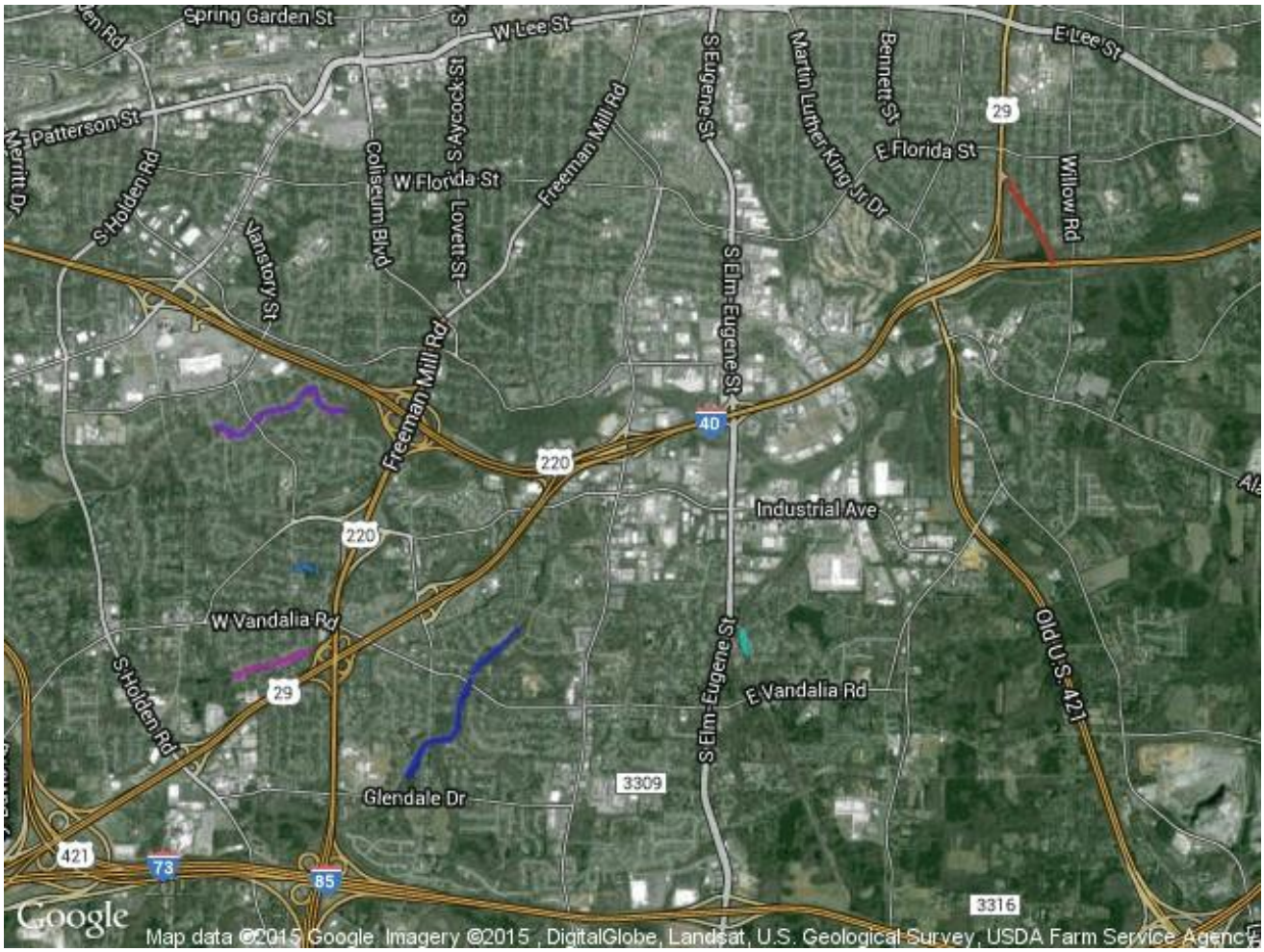
1.11798 acres or 48,699 sq feet @ ~ (36.01983, -79.79053)

9.54493 acres or 415,777 sq feet @ ~ (36.015565, -79.815175)

3.22176 acres or 140,340 sq feet @ ~ (36.018265, -79.831935)

0.95582 acres or 41,635 sq feet @ ~ (36.025125, -79.82878)

9.36604 acres or 407,985 sq feet @ ~ (36.036015, -79.831165)



Appendix B (Resumes)

AUBREY LEE PATRICK

PO Box 50556 * Nashville, TN 37205 (615) 812-5313 work

Objective
To be recognized as the foremost Global authority on invasive species

EDUCATION

Bachelor of Science in Biology with a minor in Education, 1990
East Tennessee State University

Graduate level dendrology studies, 1996
Vanderbilt University

Wildland Fire Behavior S290/S390, 1998

CPR Certified, 1992-present

PROFESSIONAL EXPERIENCE

Invasive Plant Control, Inc. 1997-present

Owner & Vice President

- The foremost specialist on invasive plants in the United States
- Developed and implemented integrated pest management plans for the implementation of exotic plant control projects and native plant restoration in greater than 100 sites across the United States
- Developed proposals, bids, project documentation, and end of project reports for exotic plant management
- Responsible for supervision, logistics, safety, and evaluating efficient work practices
- Present safety, methodology and industry specific information at numerous industry and public symposiums
- Other responsibilities include research, mapping, vegetation inventories, monitoring, and sundry administrative duties. Equipment operation includes chainsaws, brushcutters, backpack & skid sprayers, tractor, and chipper.

Warner Park Nature Center 1994-1997
Resource Management Specialist

- Performed supervisory, administrative, and professional duties of natural resource related facilities, programs, and staff
- Directed, implemented, and evaluated park research and management projects (including a 6 year vegetation survey, exotic plant control and management)
- Planned, supervised, and performed environmental education/recreational programs.

Bays Mountain State Park 1992-1994
Ranger/Naturalist

- Interpreted and communicated educational resources of the park

Winged-Deer Park 1993

NATURALIST

- Interpreted and communicated educational resources of the park

Utah Division of Wildlife Resources 1991-1992
Fisheries Technician

- Participated in research to determine sport-fishing pressure on the Flaming Gorge/Green River Project
- Conducted fish population estimates by electro-shocking, seining, and trend-netting
- Maintained fisheries equipment, entered data, and wrote reports

Utah Division of Wildlife Resources 1990-1991
FISHERIES TECHNICIAN

- Conducted fish population surveys using creel census, gill/trend netting, electro-shocking, trawling, and seining techniques
- Participated on the Strawberry Reservoir Eradication Project; which included using explosives to breach beaver dams, administering Rotenone, and regulating a de-toxification station in part to control exotic fish species

Organizational Involvement

TENNESSEE EXOTIC PEST PLANT COUNCIL
1994-2002, 2006

Board Member

- In charge of Non-Profit Corporation's accounting for 4 years
- Instrumental in development of native plant by regions brochures

TENNESSEE RECREATION & PARKS ASSOCIATION
1994-2002

Board Member & Legislative Committee Chair

- Presenter at several workshops & symposiums
- Leadership development institute graduate
- Helped develop TN Invasive Plant Guidelines brochure

SOUTHEAST EXOTIC PEST PLANT COUNCIL
1998-2002, 2006-2008

Treasurer

- Acting treasure for this newly established regional organization dedicated to controlling exotic pests

TENNESSEE VEGETATION MANAGEMENT ASSOCIATION
1999-PRESENT

Board Member

Licenses and Certifications

CERTIFIED IN RIGHT OF WAYS, LAWN AND TURF, AQUATIC

Vance Brown

Invasive Plant Control, Inc.
PO Box 50556
Nashville, TN 37205

EDUCATION

University of Maine-Orono
Masters of Forestry
Graduation Date: May 2013

The University of Alabama in Huntsville
Bachelor of Arts, English
Graduation Date: December 2008

- Minor: History

Saks High School
Anniston, Alabama 36201

- Salutatorian, Honors Degree: May 2002

EMPLOYMENT HISTORY

Invasive Plant Control, Inc. **May 2014 – Present**
Team Leader

- Supervision of up to 5 crew members
- Identification of native and non-native plants
- Calibration of pesticide application equipment
- Use of manual tools for plant removal (brushcutter, chainsaw)
- Tennessee/New York Pesticide Applicator Certified
- States Worked: Tennessee, Georgia, Florida, Ohio, Virginia, North Carolina, New York

Roger Avery Logging **June 2013 – December 2013**
Hand Crew/Chainsaw Operator

- Tree felling/processing/sorting for markets
- Trail layout
- Cable skidder operation
- Equipment maintenance of skidder and chainsaws

Forest Inventory Analysis/UMaine **September 2012 – December 2013**
Forest Technician/Lab Assistant

- Tree growth measurements of northeastern commercial species
- Determined tree form and risk
- Tree felling/processing
- Tree Coring and Processing
- Used software for dendrochronology
- Data analysis using software (Microsoft Excel/Access)

Cooperative Forestry Research Unit/UMaine **May 2011 – December 2013**
Forest Technician/ Crew Leader

- Supervision of up to 8 crew members
- Use of GPS/Compass to navigate to sites
- Standing tree measurement for 10 year study
- Marked trees for harvest
- Layout of new research plots

Sustainability Solutions Initiative/UMaineNovember 2009 – July 2010
Research Assistant

- Interview transcription
- Deed research using Registry of Deeds
- Mapped tax maps using GIS software (MapInfo)

Home Depot Stores, Inc. **March 2009 – December 2013**
Garden Dept. Associate; Paint Dept. Associate

- Operated powered equipment (forklift, etc.)
- Stocked merchandise
- Provided excellent customer service

CERTIFICATIONS/ MEMBERSHIPS

Society of American Foresters
International Society of Arboriculture
Certified Logging Professional
Associate Category
Maine Organic Farmers and Gardeners Association
Low Impact Forestry Graduate (Mechanical and Draft Animal Logging)

Maria Burger

Invasive Plant Control, Inc.
PO Box 50556
Nashville, TN 37205

EDUCATION

Sterling College, Craftsbury, VT
B.A. Conservation Ecology
Graduation Date: December 2010

EMPLOYMENT HISTORY

Invasive Plant Control, Inc. **October 2018 – Present**
Team Leader

- Supervision of up to 5 crew members
- Identification of native and non-native plants
- Calibration of pesticide application equipment
- Use of manual tools for plant removal (brushcutter, chainsaw)
- Tennessee/Oklahoma Applicator Certified
- States Worked: Tennessee, Virginia, Oklahoma

The Animal Rescue League of NH **February 2018 – October 2018**
Animal Care Specialis

The Nature Conservancy **June 5, 2017 – Sept. 28, 2018**
Preserve Management/Research Technician

Horsenettle Farm **Fall 2011 – January 2017**
Owner-Operator

CERTIFICATIONS/ MEMBERSHIPS

CPR/First Aid
Chainsaw Operator

Loni Jean Rodrigo

Invasive Plant Control, Inc.
PO Box 50556
Nashville, TN 37205

EDUCATION

Washington State University, Pullman, WA
BS in Natural Resource Sciences, Wildlife Ecology Option
Graduation Date: May 2013

EMPLOYMENT HISTORY

Invasive Plant Control, Inc. **October 2018 – Present**
Team Leader

- Supervision of up to 5 crew members
- Identification of native and non-native plants
- Calibration of pesticide application equipment
- Use of manual tools for plant removal (brush-cutter, chainsaw)
- Tennessee/Oklahoma Pesticide Applicator Certified
- States Worked: Tennessee, Oklahoma, Virginia,

AmeriCorps St. Louis Emergency Response Team **Sept. 2017 – Aug. 2018**
Corps Member/Team Leader

Missouri State Parks, St. Francois State Park **Oct. 2017 – Mar. 2018**
Natural Resource Crew Member/Temporary Season Laborer

ArmeriCorps National Civilian Community Corps, Denver **Oct. 2015 – July 2016**
Corps Member/ Safety/Tools Officer, Service Leaning Initiator

Washington Conservation Corps, AmeriCorps, Renton, WV Oct 2013 – Sep. 2014
Crew Member, Safety Officer

Seattle Parks and Recreation, Seattle, WA **Apr. 2008 – Aug. 2009**
Park Aide

CERTIFICATIONS/ MEMBERSHIPS

National (A) Sawyer Certification Card
CPR/First Aid

Appendix C (M/WBE)

MWBE Good Faith Efforts:

Invasive Plant Control, Inc. (IPC) is a turn-key small business contractor that has no need to subcontract any work out. Therefore, IPC has not been able to document past achievements in obtaining subcontractor diversity on similar projects. However, IPC does not discriminate in its hiring practices based on race, color, religion, ancestry or national origin, sex, age, marital status, or sexual orientation. IPC staff consists of approximately 50/50 female/male ratio.