



REQUEST FOR PROPOSALS

Contract for 2017-19 Urban Restoration Projects
WEST MULTNOMAH SOIL & WATER CONSERVATION DISTRICT
Proposal Documents Due: 5:00 P.M., September 11, 2017

West Multnomah Soil & Water Conservation District ("District") invites qualified vegetation management contractors to submit bids for two Urban Restoration Projects in NW Portland. Interested consultants must submit a bid on the work highlighted in the Scope of Work. The intent is to select one or more consultants to provide services for these projects. During the term of this contract, the contractor shall be responsible for maintaining insurance coverage and required licensure at its own expense, as applicable, including the following:

1. SAIF / Workers' compensation insurance
2. Oregon Construction Contractor's Board License or Farm and Forest Labor Contractor License
3. General liability insurance (\$1,000,000)
4. Automobile liability insurance
5. Required certification documents/licenses to perform work (including pesticide applicators license)

Proposals are due to Mary Logalbo, Urban Conservationist, **by Monday, September 11, 2017, 5:00 p.m.** local time.

Emailed proposals are preferred and should be sent to mary@wmswcd.org with the subject title 2017-19 Urban Restoration RFP. Facsimile won't be accepted. If mailing address to: WMSWCD, Attn: Mary Logalbo, 2701 NW Vaughn St, Ste. 450, Portland, OR 97210

Submitted bids must include the scope of work filled out with unit and total costs for outlined tasks and 2 references that may speak to similar past projects completed or in-process with your company. Contractors may consult the attached conservation plans and District lead (above) for additional information as is needed. Conservation plans are attached for additional detail, but landowner addresses & names are omitted for landowner privacy.

We welcome disadvantaged, emerging, minority, service disabled veteran and/or women business enterprises to apply for our RFPs. If your business holds any of the following certifications, distributed by the Office for Business Inclusion and Diversity (COBID), please include a copy of your certification with your response to this RFP:

- Disadvantaged Business Enterprise Program (DBE)
- Minority Business Enterprise Program (MBE)
- Women Business Enterprise Program (WBE)
- Emerging Small Business (ESB)
- *New Service Disabled Veteran Certification

The District may reject any Proposal not in compliance with all prescribed procedures and requirements, and may reject, for good cause, any or all Proposals upon a finding that it is in the public interest to do so. The District may select whatever contractor is most appropriate for the job given qualifications, availability, experience and proposed budget.

Contracts will be negotiated with "not to exceed" cap. Progress payments shall be based on completion of the items on the cost sheet at the unit prices submitted. If unanticipated situations arise that effect the time estimate of the original

bid, or if it is determined by WMSWCD that additional work is needed beyond this solicitation, WMSWCD approved change orders may be utilized. Contract negotiations will be directed toward obtaining written agreement on:

- The contractor's tasks; and
- Acreage or hourly rates for services which are consistent with the contractor's proposal and fair and reasonable to WMSWCD, taking into account the estimated value, scope, complexity, nature of the contractor's service, and availability of grant funds.

West Multnomah Soil & Water Conservation District does not discriminate based on any class or identity including age, color, disability, gender identity or expression, genetic information, marital status, national origin, race, religion, sex, sexual orientation, and veteran status. The District is an equal opportunity employer and service provider. The District makes reasonable accommodations for persons with disabilities and special needs so as to provide access to district events, materials and services.

West Multnomah Soil & Water Conservation District is committed to racial diversity, equity, and inclusion throughout our organization: in those we serve, in our workforce composition, through the contractors we hire, and in those that benefit from our work.

To request an accommodation or for complaints about discrimination, harassment, unequitable treatment and access to District events, materials and services, or for any questions at all, please contact us at our email info@wmswcd.org or call 503.238.4775.



2017 Not-To-Exceed Bid & Scope of Work Form

Project: 2017-19 Urban Restoration Projects	Date: August 31, 2017
Project Address: NW Portland, on NW Cornell Rd & Thompson	
Total Acres: 2.0 ac. + 2.0 ac = 4.0 total	District technical contact: Mary Logalbo
Site Code*: C	Contractor: _____

Please fill in all red highlighted items to include with your response to the 2017-19 Urban Projects RFP.

Contractor shall complete work for the costs outline below and as close to the target completion dates as possible. Plants generally come from private nurseries, herbicide is reimbursed at cost. **All herbicide and mowing work will be done with the utmost of care** to protect desirable plants and wildlife. WMSWCD reserves the right to withhold payment for work that causes excess damage to plantings and/or is unsatisfactory for other reasons.

Important project specific requirements:
 Contractor shall **take and submit accurate herbicide records with invoices to receive payment.**

Work Task	Target Date	Unit (ac or hourly)	Total Units	Unit Cost*	Total Cost	Date Complete
Invasive Trees (Cut stump & hack and squirt treatments, include herbicide costs, Fall 2014-15) *English Laurel, Hawthorn, Holly, etc. - 4 Acres, Cons Plan 1 & 2	Nov-17	ac				
Canopy Weeds (Spot Spray & Air Gap, Fall & Winter Treatments, 2014-15) *Ivy & Clematis - 4 Acres, Cons Plan 1 & 2	Nov-17	ac				
Invasive Shrubs (Mow w/ weed whacker, August 2015) *Blackberry - 2 Acres, Cons Plan 1	Sep-17	ac				
Invasive Shrubs (Spot Spray, includes herbicide, Late Fall 2015) *Blackberry - 2 Acres, Cons Plan 1	Nov-17	actual?				
Invasive Retreatments (Spot Spray, manual & selective handpull, includes herbicide costs w/ above listed treatments) Spring 2018 - 4 Acres, Cons Plan 1 & 2	Jun-15	ac				
Invasive Retreatments (Spot Spray, manual & selective handpull, includes herbicide costs w/ above listed treatments) Fall 2018 - 4 Acres, Cons Plan 1 & 2	Oct-18					
Native Planting (install 4000 bare-root plants & cuttings) Winter 2018-19 - 4 Acres, Cons Plan 1 & 2	Mar-19	ac				
Invasive Retreatments (Spot Spray, manual & selective handpull, includes herbicide costs w/ above listed treatments) Spring 2019 - 4 Acres, Cons Plan 1 & 2	Jun-19	ac				
Contingency (Optional)						
SUB-TOTAL					\$0.00	
Total Not to Exceed Amount					\$0	

Notes / Instructions:
 As always, use caution when applying herbicide near streams and waterways and report required details of herbicide use specifically within 3 ft of water on an agreed-upon reporting form.* Always follow the herbicide label. **Use only aquatic-approved glyphosate** (at 2% or other locally recommended rate) **or triclopyr amine** (e.g. Vaslan at 1.5% or other locally recommended rate), **plus competitor or agridex surfactant** (at 1%) and temporary blue marking dye **in both the riparian and upland project areas.**

All operations must comply with applicable federal, state, and local laws and regulations.

Send RFP response to: Mary Logalbo, West Multnomah SWCD, 2701 NW Vaughn, Suite 450, Portland OR 97210 or to: mary@wmswcd.org

Contractor name & signature _____

Date _____

*Site Codes:

- A: mostly ideal conditions: low invasive cover, good soil, flat; larger site
- B: mostly average conditions: moderate invasive cover, fair soil, mixed terrain
- C: mostly poor conditions: high invasive cover, poor soil, sloped; smaller site

Special Notes/Requirements:

Please thoroughly clean boots and equipment before and after visiting work sites.
 **HERBICIDE RECORDS ARE REQUIRED TO PROCESS INVOICES: Must include name and location of site(s), date and times of application, applicator

names and license numbers, herbicide brand and chemical name, formulation and quantities used, rate of application of all components (e.g. % herbicide, surfactant, dye), acres treated, target species, and environmental conditions. For applications made within 3' of water (including ditches/canals with water present): Please indicate subtotal of herbicide quantity used, treated surface area & linear length of adjacent stream where treatment occurred (in addition to the above requested information).

Wildfire caution: During the hot dry months of late summer, take steps to minimize fire danger and follow relevant Oregon Dept. of Forestry restrictions; for the latter see: <https://gisapps.odf.oregon.gov/firerestrictions/ifpl.html>



Conservation Plan #1

Objectives	<ul style="list-style-type: none"> • Decrease invasive plant presence • Enhance native plant community/habitat • Decrease erosion potential
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Residential: <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Rural Farming: <input type="checkbox"/> Crop <input type="checkbox"/> Produce <input type="checkbox"/> Orchards <input type="checkbox"/> Nursery	Livestock: <input type="checkbox"/> Horses <input type="checkbox"/> Cattle <input type="checkbox"/> Sheep <input type="checkbox"/> Other Erosion: <input type="checkbox"/> Streamside <input checked="" type="checkbox"/> Hillside/Slides <input type="checkbox"/> Field/Soil Loss	Other: <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Pasture <input type="checkbox"/> Oak Habitat <input type="checkbox"/> Stream Riparian <input type="checkbox"/> River Riparian <input type="checkbox"/> Wetlands <input type="checkbox"/> Pond(s) <input type="checkbox"/> Drainage/Irrigation Ditches <input type="checkbox"/> Dike/Levee <input type="checkbox"/> Wildlife Habitat <input type="checkbox"/> Water Runoff	Invasive Weeds: <input type="checkbox"/> Garlic mustard <input type="checkbox"/> Knotweed <input type="checkbox"/> Spurge laurel <input checked="" type="checkbox"/> Armenian blackberry <input type="checkbox"/> Reed canary grass <input checked="" type="checkbox"/> English holly <input checked="" type="checkbox"/> English ivy <input type="checkbox"/> English hawthorne <input checked="" type="checkbox"/> Herb Robert <input type="checkbox"/> Shiny leaf geranium <input checked="" type="checkbox"/> Other: Rosa canina?, Eradicated giant hogweed that was planted along landscaped perimeter.
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Practices		Total acreage: 5.89
2 ac	Native Plant Establishment (focus on sunny perimeter area along landscape/forest perimeter where blackberry has been removed, don't want large trees to block view, but do want erosion control. Existing plants include elderberry, wild rose species, Indian plum, vine maple (would like more vine maple). Suggest the following: snowberry, nootka rose, red flowering current, ocean spray. *Careful of septic on the SW Corner.	
2 ac	Invasive Control (ivy, holly, blackberry. Giant Hogweed was found and controlled on the site 20 years ago)	

Properties (5.89 Acres Total, Focal Area ~2)



<p>Site Description</p>	<ul style="list-style-type: none"> • General Summary: Generally healthy functional forest lands throughout property. Mainly concerned with working on areas along forest edge as approaching the home. These areas are less healthy due to invasive species encroachment and erosion. Mountain beavers were onsite and has had trouble with rabbits in the gardens. Erosion on slopes downhill from home, riprap and gabion walls installed – landowners have had engineers consult on this area and it was reported to be stable. Property is in a landslide prone area. • Acreage: 5.89 • Land use: Residential (Homestead & Landscaping ~1 ac, Forested Hills ~5 ac) • Aspect: South facing • Water: n/a, above headwater tributary to Balch Creek • Topography: Moderate to steep slopes (5 - >20%), in landslide prone area (historical & recent slides), evidence of slumping/slides visible • Drainage: Balch Creek Watershed • Soils: Home & North is on Cascade Silt Loam (15 to 30 % Slopes), West & South is Goble Silt Loam (15 – 60 % Slopes). See Soils Report. • Elevation: ~900' • Dominant Plant Community(s): Mixed stand Doug fir/hemlock/bigleaf maple forest
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Natural Resource Objectives & Plans:

Objective 1: Decrease Invasive Plant Presence

- **Blackberry (*Rubus armenicus*):** *Any treatment on slopes that are approaching vertical isn't advised – in less serve slopes the following best management practices may be followed. Blackberry shrubs should be mowed down late summer (after the primary nesting season, August 1st) using weed whackers with steel blades. Canes will be left onsite as mulch. In flatter areas, blackberry root wads can be dug up in flatter terrain in the late fall, winter and early spring when the ground is fully saturated to ensure that as many of the roots are removed as is possible. Blackberry regrowth could also be foliar sprayed in lieu of digging up root wads with [2% Aquatically labeled Triclopyr amine (i.e. Vasland)]+ [2% Aquatically labeled modified vegetable oil surfactant (i.e. Competitor)]. The spraying of blackberry (vs digging) may be optimal when riverbanks and/or steep slopes will be disturbed so that erosion/sedimentation is minimized. The majority of blackberry is found on steeper slopes at this site. Follow-up treatment and monitoring will be necessary regardless of treatment methods.
- **Irish and/or English Ivy (*Hedera ssp.*):** Focus on tree-ivy removal first using the lifesaver method (by hand). Complimentary volunteer events (and facilities crews) can utilize the

following manual methods (lifesaver rings) on any canopy weeds that are found growing back following treatments (wait at least a month after air gapping to access need) – the following is ideally done when the soil is moist to minimize roots breaking off in dry soil:

Use either loppers or a pruning saw to cut through each vine clinging to the tree trunk at shoulder height and at ankle height. This severs the connection between the life sustaining roots and the rest of the ivy. Be sure to cut ALL vines as even one can continue to nourish ivy higher up the tree. Strip the Ivy away from the tree between the two cuts - some vines can be so big that you need to pry them away from the tree - just be careful not to damage the bark.

Imagine a 6-foot radius circle around the tree; begin by peeling back the Ivy mat 6 feet from the tree and thoroughly pull every vine and root from the circle. You may also find it helpful to cut "slices" in the ivy mat within your imaginary circle and rip out ivy like a piece of pie. If you are working on a slope, pull downhill and let gravity work with you. Research has shown that once Ivy has been pulled at least 6 feet away from a tree it will continue to grow away from the tree rather than towards it again. The keys to an effective Lifesaver are consistency and patience; all vines and roots must be removed.

The first part of the tree saver method, the girdling of canopy weeds (cutting at shoulder and ankle height), can be done any time of year. All ground canopy manual weed removal should be done in the late fall, winter and early spring when the ground is fully saturated to ensure that as many of the roots are removed as is possible. Foliar spray of ivy on hillside may be optimal due to erosion concerns. Foliar spray could also be used for the entire ground ivy infestation but hand removal has also been found to be quite effective for ground ivy (this is usually a matter of available volunteer resources as manual removal of ground ivy can be cost prohibitive as well as topographical-related safety and erosion concern related to steep slopes with manual removal). Foliar spray of ivy on hillside may be optimal due to erosion concerns – also foliar spray could be opted for the entire ground ivy infestation where desirables are not comingled with ivy. The most effective canopy weed mix we now utilize is made up of the following: [4% Aquatically Labeled Glyphosate Concentrate (i.e. Rodeo)] + [2% Aquatically Labeled Triclopyr Amine Concentrate (i.e. Vastlan)] + [2% Modified vegetable oil surfactant (i.e. Agridex or Competitor)]. Follow-up treatment and monitoring will be necessary regardless of treatment methods.

- **English Holly (*Ilex aquifolium*) & English Hawthorn (*Crataegus monogyna*):** All small saplings will be pulled up by hand done in the late fall, winter and early spring when the ground is fully saturated to ensure that as many of the roots are removed as is possible. For medium sized trees, weed wrenches can be used to pry them out. If the tree is too large for removal with a weed wrench the trees will need to be chainsawed down and stems will need to be painted with an herbicide (or hack and squirt method) or the suckers will need to be continuously cut and removed. The cut-stump herbicides we utilize are the following: [50% Aquatically Labeled Glyphosate Concentrate (i.e. Rodeo)] OR [50% Aquatically Labeled Triclopyr Amine Concentrate (i.e. Vastlan)]. Follow-up treatment and monitoring will be necessary regardless of treatment methods.
- **Herb Robert (*Geranium robertianum*):** Pull isolated or small populations in the winter prior to developing seed heads (but not when in seed as seed will be spread in this manner).

Objective 2: Enhance Native Plant Community/Habitat

Native Plantings Following Invasive Removal (~2 Acre, Species: Native Trees, Shrubs & Forbs, ~2000 stems total): Areas where invasives are removed and bare soil is exposed will be planted, with a diversity of native trees, shrubs and forbs suitable to the site. The spacing will vary depending on existing vegetation on site. An estimate of 2000 stems will be needed (6.5 ft. spacing). All of the listed species are suitable for the site and a ratio of approximately ¼ tree cover (500 trees) by ¾ shrub (1500 shrubs/ground cover) should be utilized, some mortality is assumed when planting at this density. Only small trees will be planted in front of the landowners view and the landowner would definitely like to incorporate more vine maple:



Type	Common Name	Latin Name	Exposure	Moisture	Height (ft)
Tree	grand fir	Abies grandis	sun - shade	dry - moist	250
Tree	bigleaf maple	Acer macrophyllum	sun - shade	dry - moist	100
Tree	Douglas-fir	Pseudotsuga menziesii	sun - part shade	dry - moist	250
Tree	Western hemlock	Tsuga heterophylla	part shade - shade	moist - wet	225
Tree	vine maple	Acer circinatum	part shade - shade	dry - moist	25
Shrub	salal	Gaultheria shallon	part shade - shade	dry - moist	5
Shrub	nootka rose	Rosa nutkana	sun - part shade	moist - wet	10
Shrub	salmonberry	Rubus spectabilis	sun - shade	moist - wet	10
Shrub	red elderberry	Sambucus racemosa	sun - shade	dry - moist	15
Shrub	snowberry	Symphoricarpos albus	sun - shade	dry - moist	5
Shrub	serviceberry; juneberry	Amelanchier alnifolia	sun - shade	dry - moist	20
Shrub	low Oregon grape	Mahonia nervosa	part shade - shade	dry - moist	3
Shrub	indian plum	Oemlaria cerasiformis	part shade - shade	dry - moist	15
Shrub	bald hip rose	Rosa gymnocarpa	sun - shade	dry - wet	4
Shrub	oceanspray	Holodiscus discolor	sun - shade	dry - moist	15
Groundcover	lady fern	Athyrium filix-femina	sun - shade	moist - wet	4
Groundcover	deer fern	Blechnum spicant	part shade - shade	dry - wet	2
Groundcover	sword fern	Polystichum munitum	part shade - shade	dry - moist	3
Groundcover	piggyback plant	Tolmiea menziesii	part shade - shade	dry - moist	1

Objective 3: Decrease Erosion Potential

Densely plant out as many areas as possible with a diversity of plants (with various root structures) including trees, shrubs and groundcovers. The landowner is in a landslide prone area and plantings can only do so much. Try to never overwater the slope or leave the slope bare (w/o vegetation). It is recommended to have a geotechnical engineer come out to see if any additional erosion control efforts might benefit the hillside that is moving downslope from home.

Project Overview

Site preparation	Invasive plant removal.
Practice installation	Native plant installation. <i>*Overplanting planned to accommodate mountain beavers and active browsers (i.e. deer/elk) in the area.</i>
Maintenance	Watering plantings and regular weeding.
Additional recommendations	In landslide prone area and plantings can only do so much. Try to never overwater the slope or leave the slope bare (w/o vegetation). Recommend to landowner to have a geotechnical engineer come out to see if any additional erosion control efforts might benefit hillside that is moving downslope from home.
Monitoring	Walk the new planting areas each season to observe mortality and weed as is needed.

General Timeline

2701 NW VAUGHN STREET, SUITE 450 ♦ PORTLAND, OR 97210

P: 503.238.4775 ♦ F: 503.326.3942

WWW.WMSWCD.ORG

Fall 2017	<ul style="list-style-type: none"> • Mow down blackberry late summer/early fall • Dig up blackberry root wads or spray blackberry regrowth. • Cut stump treatments of invasive trees. • Initial ivy treatment.
Winter 2017/2018	<ul style="list-style-type: none"> • Hand pulling/digging of invasives co-mingled with native plants and any invasive forbs onsite (prior to developing seedheads).
Spring 2018	<ul style="list-style-type: none"> • Retreatment of all invasives onsite.
Summer 2018	<ul style="list-style-type: none"> • Monitor site, assess key areas to be treated and planted.
Fall 2018	<ul style="list-style-type: none"> • Follow-up invasive weed control (foliar spray and/or digging of blackberry, foliar spray and/or handpull ivy, retreat invasive trees)
Winter 2018/2019	<ul style="list-style-type: none"> • Native planting late winter in invasive species removal areas.
Spring 2019	<ul style="list-style-type: none"> • Maintenance weeding around any new plantings.
Summer 2019	<ul style="list-style-type: none"> • Water new plantings and inventory plant/invasive removal progress.
Fall 2019 and beyond	<ul style="list-style-type: none"> • Maintenance weeding as is needed. Replant, as is needed. Inventory site twice per year.

Name of landowner

Signature of landowner

Date

Name of District staff

Signature of District staff

Date

West Multnomah Soil & Water Conservation District
2701 NW Vaughn St., Ste. 450
Portland, OR 97210

Please direct questions/comments to:

Mary Logalbo, Urban Conservationist

Phone: (503) 238-4775 x103

Fax to: (503) 326-3942

Email: mary@wmswcd.org

Thank you for partnering with WMSWCD to conserve and protect soil & water resources for people, wildlife and the environment in Multnomah County and beyond!



Conservation Plan 2

Objectives	<ul style="list-style-type: none"> • Enhance wildlife habitat & protect biodiversity • Restore forest health and function • Address Stormwater issues and decrease erosion/slide potential
Summary of Plan Practices/Treatments	<p>The goal is to help get the degraded land to a more healthy and functional state through an aggressive start on weed control and native plant establishment and protection. Erosion control/prevention and Stormwater management measures are suggested and the protection and installation of diverse native trees and shrubs will compliment this goal long-term, however the removal of invasives will temporarily open up more denuded area that is thus more susceptible to slide and erosion, so temporary measures to cover and stabilize soil and minimize soil disturbance while establishing these plants should be adhered to.</p> <p>This plan involves site preparation including treatments of the following:</p> <ul style="list-style-type: none"> • Invasive vine treatments primarily focused on ivy • Invasive tree treatments primarily focused on English laurel, English holly and English hawthorn. • Invasive forb treatments are focused on garlic mustard, herb robert and knotweed are included – free assistance on garlic mustard is provided by the City of Portland’s BES and knotweed treatment is also available through WMSWCD and/or BES – they’ve been alerted and will treat this infestation. <p>This project also involves planting native trees and shrubs, maintenance weed control, erosion control measures and Stormwater issues suggestions and monitoring.</p>

Residential: <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Rural Farming: <input type="checkbox"/> Crop <input type="checkbox"/> Produce <input type="checkbox"/> Remnant Orchard	Livestock: <input type="checkbox"/> Horses <input type="checkbox"/> Cattle <input type="checkbox"/> Sheep <input type="checkbox"/> Other Erosion: <input type="checkbox"/> Riverbank <input checked="" type="checkbox"/> Hillside/Slides	Other: <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Pasture <input type="checkbox"/> Oak Habitat <input type="checkbox"/> Stream (Ephemeral) Riparian <input type="checkbox"/> River Riparian <input type="checkbox"/> Wetlands <input type="checkbox"/> Pond(s) <input type="checkbox"/> Drainage/Irrigation Ditches	Invasive/Noxious Weeds: <input checked="" type="checkbox"/> Garlic Mustard <input checked="" type="checkbox"/> *Ivy <input checked="" type="checkbox"/> Knotweed <input checked="" type="checkbox"/> Holly <input checked="" type="checkbox"/> Hawthorn <input checked="" type="checkbox"/> Laurel
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__ Nursery

__ Field/Soil Loss

X Water Runoff

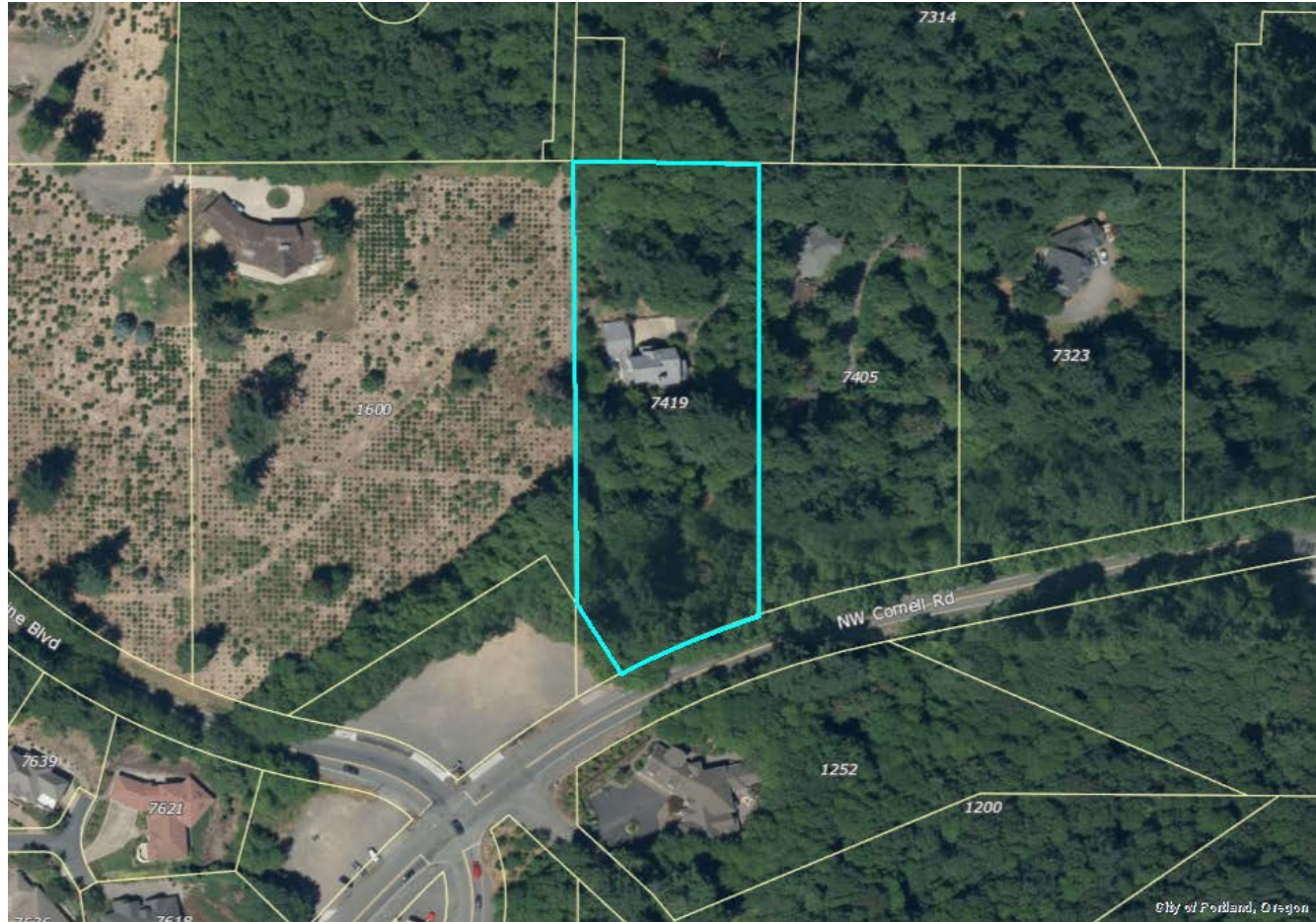
*Potential w/ removal

X Wildlife Habitat

Project Area:

Total property acreage: 2.09

Focus area (natural area) acreage: ~2



Recommended Practices

~2 ac	Invasive Plant Management: Throughout natural area
~2 ac	Native Planting: Throughout natural area

Site Description

- General Summary:** Invasive plant species are a major threat in this natural area as they crowd out and take down native vegetation. The goal of this plan is to leave the natural area in a more healthy and functional state that is more maintainable for the landowner through invasive removal and native planting. Extra precautions should be taken to control erosion on the property's steep slopes – some of these will be discussed in the plan. Initial site visit in July 2015. Drainage issues were apparent in the area above the home (i.e. retaining wall to driveway) as well as along the septic lines. In the septic drainage area there is an flowing stream during the wet season. There are many cracks and holes in this area as well as a lot of moss indicating standing moist areas and compromised underground stability. This area is also getting infested with creeping Charlie and creeping buttercup. Uphill of their home is a very healthy native forest with minimal invasive plants bordered by a lawn/meadow area,



	<p>raised beds and some cherry trees that don't produce much fruit due to the shade where they are located. The lawn/meadow area that they said they "just let go wild" actually has some beneficial natives (i.e. yarrow & self heal) that are great for natives – more could be incorporated for a meadowscape, if desired. More tree cover is needed throughout – mid-layer and groundcover plants are fairly intact in the back forest and natural area immediately closest to the home – the lack of natives and infestation of invasive plants gets worst towards the road and the east side of the driveway (towards neighbor Nuggent at 7405). Ivy is the most pervasive invasive plant on site whereas the invasive trees and invasive forbs are only present in small sporadic infestations.</p> <ul style="list-style-type: none"> • Acres: 2.09 Total, ~2 Focus Area • Drainage: Balch Creek • Topography: Mostly steep with some moderate terrain close to parking lot and home (increase in steepness as you enter the natural area) • Soils: Cascade-Silt Loam, 15 to 30 percent slopes; Cascade-Urban Land Complex, 8 to 15 percent slopes; Goble silt loam, 30 to 60 percent slopes • Elevation: ~976 ft • Dominant Plant Community: Doug Fir/Hemlock and Maple Mixed Stand
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Invasive Species Management Plan

Invasive Vines

English/Irish Ivy (*Hedera spp*)

Infestation Location(s): Heavy-light ivy throughout entire site – worst infestation towards roadway and east of driveway.

Ivy Treatment: Focus on tree removal first using the lifesaver (by hand) and air gapping (w/ herbicide treatment) methods. A full air gapping treatment, where climbing vines will be cut and then treated with herbicide, will be done throughout the entire project area to get ahead of the heavily infested trees. The most effective canopy weed mix we now utilize is made up of the following: [4% Aquatically Labeled Glyphosate Concentrate (i.e. Rodeo)] + [1.5% Aquatically Labeled Triclopyr Amine Concentrate (i.e. Vastlan)]+ [2% Modified vegetable oil surfactant (i.e. Agridex or Competitor)].

Complimentary volunteer events (and facilities crews) can utilize the following manual methods (lifesaver rings) on any canopy weeds that are found growing back following treatments (wait at least a month after air gapping to access need) – this is ideally done when the soil is moist to minimize roots breaking off in dry soil:

1. Use either loppers or a pruning saw to cut through each vine clinging to the tree trunk at shoulder height and at ankle height. This severs the connection between the life sustaining roots and the rest of the ivy. Be sure to cut ALL vines as even one can continue to nourish ivy higher up the tree. Strip the Ivy away from the

tree between the two cuts - some vines can be so big that you need to pry them away from the tree - just be careful not to damage the bark.

2. Imagine a 6-foot radius circle around the tree; begin by peeling back the Ivy mat 6 feet from the tree and thoroughly pull every vine and root from the circle. You may also find it helpful to cut "slices" in the ivy mat within your imaginary circle and rip out ivy like a piece of pie. If you are working on a slope, pull downhill and let gravity work with you. Research has shown that once Ivy has been pulled at least 6 feet away from a tree it will continue to grow away from the tree rather than towards it again. The keys to an effective Lifesaver are consistency and patience; all vines and roots must be removed.

The first part of the tree saver method, the girdling of canopy weeds (cutting at shoulder and ankle height), can be done any time of year. All ground canopy manual weed removal should be done in the late fall, winter and early spring when the ground is fully saturated to ensure that as many of the roots are removed as is possible. Foliar spray of ivy on hillside may be optimal due to erosion concerns. Foliar spray could also be used for the entire ground ivy infestation but hand removal has also been found to be quite effective for ground ivy (this is usually a matter of available volunteer resources as manual removal of ground ivy can be cost prohibitive as well as topographical-related safety and erosion concern related to steep slopes with manual removal). The most effective canopy weed mix we now utilize is made up of the following: [4% Aquatically Labeled Glyphosate Concentrate (i.e. Rodeo)] + [1.5% Aquatically Labeled Triclopyr Amine Concentrate (i.e. Vastlan)]+ [2% Modified vegetable oil surfactant (i.e. Agridex or Competitor)]. Follow-up treatment and monitoring will be necessary regardless of treatment methods.

Invasive Trees

Species: English & Portuguese Laurel (*Prunus spp*), Holly (*Ilex aquifolium*) & English hawthorn (*Crataegus monogyna*):

Infestation Location(s): Moderate to light – scattered – only a few hawthorns onsite.

Treatment: Due to the degree of infestation (size of trees and location in natural area) an initial cut stump herbicide treatment (w/ 50% Aquatically labeled glyphosate (i.e. Rodeo)) is suggested for weedy trees throughout the natural area. All small saplings can be pulled up by hand done in the late fall, winter and early spring when the ground is fully saturated to ensure that as many of the roots are removed as is possible. For medium sized trees, the landowner can use weed wrenches can be used to pry them out. If the tree is too large for removal with a weed wrench the trees will need to be chainsawed down and stems will need to be painted with an herbicide (cut stump) or hack and squirt treated (which leaves dead standing trees) [(w/ 50% Aquatically labeled glyphosate (i.e. Rodeo)) or the suckers will need to be continuously cut and removed very frequently (every two weeks for at two – five years). Follow-up treatment will be necessary.

Invasive Forbs

Species: Garlic Mustard (*Alliaria petiolata*) and Knotweed (*Polygonum x bohemicum*):

Infestation Location(s): Garlic mustard near roadway and in lower natural area up to open septic field area covered in moss, Knotweed found off lower section of the driveway (~20 x 15 ft patch).

Treatment: Knotweed may be treated with foliar spray 2% Aquatic formulation glyphosate (i.e. Rodeo) + 2% Modified vegetable oil surfactant (i.e. Agridex or Competitor)– manual removal (aside from new small patches) is not recommended for this species as it spreads vegetatively (especially via rhizomes) and often responds positively to attempts at manual removal (especially mowing). The garlic mustard on site should be hand pulled or foliar sprayed early spring prior to species going to seed (January – March). If plants are close to going to seed when pulled they should be disposed of in the garbage. *Both of these species are Multnomah County Early Detection & Rapid Response (EDRR) priorities for treatment as populations are small enough where containment and/or eradication is believed to be feasible, thus free treatment of the same will be provided by City of Portland Bureau of Environmental Services (BES) or West Multnomah Soil & Water Conservation District (WMSWCD). *The landowner has already provided the City permission to treat its garlic mustard.



Native Planting Plan

Native Plantings Following Invasives Removal (~2 Acres, Species: Native Trees, Shrubs & Forbs, ~2400 stems total): Areas where invasives are removed and bare soil is exposed will be planted, as is needed, with a diversity of native trees, shrubs and forbs suitable to the site. The spacing will vary depending on existing vegetation on site. An estimate of 2400 stems will be needed (2 acres at 6 ft. spacing at 1200 stems/ac). All of the listed species in are suitable for the site (pending specific site conditions) and a ratio of approximately ¼ tree cover (600 trees) by ¾ shrub (1800 shrubs/ground cover) is regularly utilized (this may be a bit off since the landowner desires only low growing plants in the view shed – the area next to the pool along the roadway in the northeast corner), some mortality is assumed when planting at this density:

Type	Common Name	Latin Name	Exposure	Moisture	Height (ft)
Tree	grand fir	Abies grandis	sun - shade	dry - moist	250
Tree	bigleaf maple	Acer macrophyllum	sun - shade	dry - moist	100
Tree	Douglas-fir	Pseudotsuga menziesii	sun - part shade	dry - moist	250
Tree	Western hemlock	Tsuga heterophylla	part shade - shade	moist - wet	225
Tree	vine maple	Acer circinatum	part shade - shade	dry - moist	25
Shrub	salal	Gaultheria shallon	part shade - shade	dry - moist	5
Shrub	nootka rose	Rosa nutkana	sun - part shade	moist - wet	10
Shrub	salmonberry	Rubus spectabilis	sun - shade	moist - wet	10
Shrub	red elderberry	Sambucus racemosa	sun - shade	dry - moist	15
Shrub	snowberry	Symphoricarpos albus	sun - shade	dry - moist	5
Shrub	evergreen huckleberry	Vaccinium ovatum	part shade - shade	dry - moist	6
Shrub	serviceberry; juneberry	Amelanchier alnifolia	sun - shade	dry - moist	20
Shrub	low Oregon grape	Mahonia nervosa	part shade - shade	dry - moist	3
Shrub	indian plum	Oemlaria cerasiformis	part shade - shade	dry - moist	15
Shrub	Pacific ninebark	Physocarpus capitatus	sun - shade	moist - wet	13
Shrub	bald hip rose	Rosa gymnocarpa	sun - shade	dry - wet	4
Shrub	red huckleberry	Vaccinium parvifolium	part shade - shade	dry - moist	10
Groundcover	lady fern	Athyrium filix-femina	sun - shade	moist - wet	4
Groundcover	deer fern	Blechnum spicant	part shade - shade	dry - wet	2
Groundcover	Pacific waterleaf	Hydrophyllum tenuipes	part shade - shade	moist - wet	0.5
Groundcover	sword fern	Polystichum munitum	part shade - shade	dry - moist	3
Groundcover	piggyback plant	Tolmiea menziesii	part shade - shade	dry - moist	1
Groundcover	wild ginger	Asarum caudatum	part shade - shade	moist	0.5
Groundcover	bunchberry	Cornus unalaschkensis	part shade - shade	moist - wet	1
Groundcover	fringecup	Tellima grandiflora	part shade - shade	moist	1
Groundcover	inside-out flower	Vancouveria hexandra	part shade - shade	dry - moist	1

Meadowscaping

The following manual provides comprehensive guidance on meadowscapes – plants may be added to the existing “meadow” onsite and additional tips on managing this are available at:

<https://wmswcd.org/programs/pacific-northwest-urban-meadowscaping/>

Erosion Control & Stormwater Management

- The Stormwater Management Manual (SWMM) provides policy and design requirements for stormwater management throughout the City of Portland. The requirements in the manual apply to all development, redevelopment, and improvement projects within the City of Portland on private and public property and in the public right-of-way. Environmental Services revises the Stormwater Management Manual to meet current regulatory requirements and to provide current technical standards. Please review the SWMM for guidance on Stormwater Management techniques and related policy: <https://www.portlandoregon.gov/bes/64040>
- Consult with a geotechnical engineer as to whether or not they determine the issues of concern warrant an engineered solution (i.e. retaining wall and drainage concerns). The demonstrated sediment loss, cracking and holes suggest that an engineered solution may be required. You can find geotechnical engineers via the yellow pages and I cannot make any specific recommendations because we are a public entity. If you do end up pursuing an engineered solution I recommend getting at least three bids/opinions before moving forward. Note, any recommended work may trigger a host of permits including permits with Department of State Lands, Army Corps as well as local permits (i.e. City of Portland and/or Multnomah County). Changes to the gutter/drainage system (see below) can trigger a city plumbing permit. If available, provide the engineer with historic plat maps and any other maps of the building’s piping and drainage systems to help with site assessment.
- Whenever plants are manually removed, install interim erosion control measures such as erosion control blankets, wattles and straw as a diverse and dense array of plants are installed and established. Keep ivy off of trees to maintain tree health – an important Stormwater feature. Also, remove the ivy in phases (in lieu of conducting the work all at once) while installing and establishing trees, shrubs and groundcover to provide added interim protection. The City’s Erosion Control manual provides additional information on Stormwater & Erosion Control BMPs: <https://www.portlandoregon.gov/bds/article/94539>
- Consider contacting City of Portland’s Bureau of Environmental Services Rebecca Tillson to alert the City of erosion issues and stormwater concerns to assess if they could provide any further technical assistance. Review any reports provided by the City of Portland BES and BDS in regards to Stormwater issues and permitted stormwater and septic systems. Rebecca Tillson is available at Rebecca.Tillson@portlandoregon.gov
- Proper install and regularly scheduled maintenance is an integral part of stormwater management. All stormwater management facilities require some amount of maintenance to continue functioning properly. Regular cleaning of your gutters and proper maintenance of your downspouts is the first and most important step to keeping your stormwater systems in good working order. Property owners are legally responsible for inspecting and maintaining any stormwater facilities on their sites. Regular maintenance will prolong the life of your facility and make sure that it is managing the maximum amount of water possible.
- Given the moisture and cracking soil situation over the septic drain field it is recommended to have the system serviced and inspected to correct any issues resulting from a non-functioning system.

General Project Timeline

Fall 2017	<ul style="list-style-type: none">• Foliar spray of invasive vines, air gapping of infested trees, cut stump treatment of weedy trees. Foliar treatment of knotweed.
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Winter 2017/2018	<ul style="list-style-type: none"> • Hand pull/removal of ground ivy resprouts. • Plant any hand-pulled areas. • Install erosion control and prevention materials as is needed.
Spring 2018	<ul style="list-style-type: none"> • Hand pull or foliar treatment of garlic mustard, continue manual removal or additional foliar treatment of ground ivy.
Summer 2018	<ul style="list-style-type: none"> • WMSWCD: Monitoring • Watering new plantings as is feasible (if any new plants are installed).
Fall 2018	<ul style="list-style-type: none"> • Retreat invasives as needed.
Winter 2018/2019	<ul style="list-style-type: none"> • Major planting throughout the natural area. • Hand weed as needed.
Spring 2019	<ul style="list-style-type: none"> • Weeding around newly planted natives and retreat invasives as needed.
Summer 2019	<ul style="list-style-type: none"> • WMSWCD: Monitoring • Watering new plantings.
Fall 2020	<ul style="list-style-type: none"> • Retreat invasives as needed.
Winter 2020/2021	<ul style="list-style-type: none"> • Replant previously planted areas, if needed, and continue to hand pull weeds around targeted native plantings.
Spring 2021	<ul style="list-style-type: none"> • Weeding around newly planted natives and retreat invasives as needed.
Summer 2021	<ul style="list-style-type: none"> • WMSWCD: Monitoring • Watering new plantings as is feasible.
Fall 2021 and beyond	<ul style="list-style-type: none"> • Landowner: Retreat invasives and replant natives as needed. Landowners to continue monitoring and targeted planting care.

Landowner Signature *(Signature indicates landowner's approval of the proposed plan, landowner will provide access to District staff, crews and volunteers on land and willingness of landowner to maintain the project if District funds are allocated to assist with implementation. By signing the plan, the landowner or legal representative certifies that any District funds dispersed to install this plan will be used only for the purposes approved by the District and will not be used for lobbying, for attempts to influence voting or legislation, or for litigation of any kind. The project/event will comply with the District's nondiscrimination policy. West Multnomah Soil & Water Conservation District doesn't discriminate based on age, color, disability, gender identity or expression, genetic information, marital status, national origin, race, religion, sex, sexual orientation, or veteran status, or any other characteristics protected by law. The District is an equal opportunity employer. We will make reasonable accommodations for events, educational materials and services and invite your feedback. The applicant organization agrees to be responsible for its own actions and for any damage or third party liability arising from the organization's activities related to recommendations provided by the District. It agrees to indemnify and hold harmless the District and its officers, directors, agents, and employees. The landowner agrees that obtaining permits is not the responsibility of the District. The District will not be held responsible for the safety of organizers or participants in the project/event, or for providing insurance coverage (The applicant organization is advised to make sure adequate insurance coverage is obtained for the project/event). The applicant is responsible for maintaining the project):*

Print Name Below	Sign Name Below	Date

Please direct questions/comments to:

Mary Logalbo

West Multnomah Soil & Water Conservation District

2701 NW Vaughn St., Ste. 450

Portland, OR 97210

Phone: (503) 238-4775 x103

Fax to: (503) 326-3942

Email: mary@wmswcd.org

Thank you for partnering with WMSWCD to conserve and protect soil & water resources for people, wildlife and the environment in Multnomah County and beyond!