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Proposal to Create a Native Landscape at the Papagianni Residence North Oaks, MN

Prepared for:
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Project Area:
7,000 sq ft of prairie/pond edge
4,000 sq ft of buckthorn removal

Prairie Restorations, Inc.

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www.prairieresto.com

A. Company Background: http://www.prairieresto.com/mission.shtml (Follow the blue links to learn more)

Prairie Restorations, Inc. (PRI) has been dedicated to the restoration and management of native plant communities for over 39 years. We are fortunate to have worked with thousands of clients on a wide variety of projects in both the public and private sectors throughout the Upper Midwest.

The PRI staff currently consists of 45 full-time professionals and about an equal number of seasonal employees which operate out of six Minnesota locations. Most of the staff has B.S. degrees in natural resource related fields such as biology, forestry, horticulture or wildlife. As a full service restoration company, PRI is able to provide our clients expertise and service in all facets of native landscape restoration. Along with consulting, design, installation and land management services, we also produce our own local ecotype seed and plant materials which are used on all of our projects.

The PRI Team is committed to and passionate about protecting and enhancing our valuable natural resources. It is this dedication that is brought to each and every one of our projects. We are proud to offer the best expertise, services and products available in the industry and appreciate the opportunity to provide you with this proposal.

B. Project Overview:

1. Establishing a native landscape (http://www.prairieresto.com/establish_landscape.shtml) in this area will provide a long term, ecologically sound landscape that is adapted to the existing conditions of the site. This native landscape will not require irrigation, black dirt or other soil amendments. . It will add a distinctive look to the property as well as provide valuable habitat for songbirds, butterflies, bees and other pollinators.

2. To establish this planting, the site will be treated with herbicide to kill existing weeds, tilled and harrowed to provide a smooth seedbed, seeded with native grasses and wildflowers, and covered with straw erosion blanket to protect the seeding and enhance germination.

3. An option is given to plant native wildflower and grass plugs within the project area to add diversity and color within the project area.

4. An estimate for 3 years of Establishment Period Vegetation Management is included in this proposal.

C. Site preparation: http://www.prairieresto.com/installation_preparation.shtml

1. In areas with actively growing vegetation, apply a glyphosate herbicide (Roundup® or equivalent) and a triclopyr herbicide (Garlon 3A® or equivalent) with appropriate surfactants, as per manufacturer's directions. Allow a minimum of 30 days before disturbing the vegetation with other procedures.

2. Remove the dead vegetation by implementing a prescribed burn using appropriate procedures, equipment and permits.

3. Lightly rake or till the soil to stimulate weed seed germination.

4. Allow the site to green up, followed by an application of a glyphosate herbicide (Roundup® or equivalent) as per manufacturer's directions. Allow a minimum of 10 days before disturbing the vegetation with other procedures.

5. Respray with a glyphosate herbicide (Roundup® or equivalent) if regrowth of vegetation occurs and when it reaches approximately 8" to 12" in height.

6. Harrow or rake the soil to create a smooth seedbed.

D. Seed and Seeding: http://www.prairieresto.com/installation_seeding.shtml

1. Seeding dates will be in the spring or summer before August 10th or in the fall between September 20th and freeze-up.

2. The grass seed will be spread by hand broadcasting throughout the project area.

3. A raking will follow to incorporate the seed into the soil.

4. Following the raking, flower seed will be spread by hand broadcasting onto the soil surface.

5. The seed mixes will consist of the following species and amounts:

Grass Seed	**lbs / project area**
PRI Short Dry Grass Mix: 40% Little bluestem, 35% Side oats grama, 13% Blue grama, 4% Poverty oat grass, 4% June grass, 2% Sand dropseed, 2% Prairie dropseed, all by PLS weight.	2

PRI Savanna Grass Mix:
29% Little bluestem, 25% Side oats grama,
12% Poverty oat grass, 6% Big bluestem,
5% Canada wild rye, 4% Bottlebrush grass,
4% Silky wild rye, 4% Indian grass,
3% Hairy wood chess, 2% Blue grama,
2% Fringed brome, 2% Kalm's brome,
2% Prairie dropseed, all by PLS weight. 2

PRI Shoreline Grass Mix:
18% Pointed broom sedge, 15% Green bulrush,
12% Wool grass, 10% Blue joint grass,
8% Fringed brome, 7% Soft-stemmed bulrush,
6% stalk-grain sedge, 6% Virginia wild rye
6% Tall manna grass, 5% Fox sedge,
5% River bulrush, 2% Cord grass, all by PLS weight. 1/2
http://www.prairieresto.com/CategoryList.php?cID=12

Note: A cover crop will be sown along with the native grasses at a rate of approximately 25 lbs./acre. Cover crop is an annual grass species that germinates quickly and will reduce the risk of soil erosion on the site. Oats will be used for a spring or summer seeding, and winter wheat will be used for a fall seeding.

Wildflower Seed	**oz./acre;project area**
Butterfly weed (*Asclepias tuberosa*)	1/16
Wild lupine (*Lupinus perennis*)	1/16
Yellow coneflower (*Ratibida pinnata*)	1/16

PRI Short Dry Wildflower Mix:
20% Purple prairie clover, 18% Hoary vervain, 16% Black-eyed Susan,
14% Leadplant, 6% Showy Penstemon, 5% Bush clover,
5% Rough blazing star, 3% Stiff goldenrod,
2% Common milkweed, 2% Wild bergamot, 2% Prairie rose,
2% Western spiderwort, 2% Golden Alexander,
1% Yarrow, 1% White prairie clover,
1% Northern bedstraw, all by PLS weight. 3

PRI Savanna Wildflower Mix:
16% Hoary vervain, 14% Purple prairie clover, 14% Black-eyed Susan,
12% Leadplant, 8% Common ox-eye, 5% Bush clover,
4% Golden Alexander, 3% Wild bergamot, 3% Stiff goldenrod,
3% Smooth aster, 3% Western spiderwort, 3% Canada tick trefoil,
3% Showy penstemon, 2% Prairie rose, 2% Common milkweed,
2% Upland goldenrod, 1% White prairie clover, 1% Yarrow,
1% Northern bedstraw, all by PLS weight 2

PRI Shoreline Wildflower Mix:
10% Blue vervain, 10% Swamp milkweed, 9% Joe-pye weed,
8% Sweet flag, 8% Tall meadow rue, 7% Blue flag iris,
6% Giant bur-reed, 6% Golden Alexander,
5% Boneset, 5% Black-eyed Susan, 4% Tall blazing star,
4% New England aster, 4% Flat-topped aster, 4% Ironweed,
3% Sneezeweed, 3% Common ox-eye,
2% Water plantain, 2% Arrowhead, all by PLS weight. 1
http://www.prairieresto.com/CategoryList.php?cID=13

E. Erosion Control: http://www.prairieresto.com/installation_erosion.shtml

1. Cover crop will be sown along with the native grasses.

2. Straw erosion blanket with netting made of natural fibers (S150bn or equivalent) will be applied as per manufacturer's directions to the entire project area. Approximately 400 sq yds.

F. Plants and Planting:

1. Optionally, the planting can be further diversified with wildflower and/or grass plants (plugs or 4 inch pots). These will be planted individually in appropriate microhabitats throughout, or in designated areas of the project. The plants used will consist primarily of species other than those previously seeded.

2. Plant a total of * plugs.

Wildflowers

http://www.prairieresto.com/CategoryList.php?cID=10

Sweet flag (*Acorus americanus*)
Fragrant giant hyssop (*Agastache foeniculum*)
Canada anemone (*Anemone canadensis*)
Thimbleweed (*Anemone cylindrica*)
Pussytoes (*Antennaria neglecta*)
Prairie sage (*Artemisia ludoviciana*)
Whorled milkweed (*Asclepias verticillata*)
Turtlehead (*Chelone glaubra*)
Stiff tickseed (*Coreopsis palmata*)
White prairie clover (*Dalea candida*)
Purple prairie clover (*Dalea purpurea*)
Rattlesnake master (*Eryngium yuccifolium*)
Wild strawberry (*Fragaria virginiana*)
Northern bedstraw (*Galium boreale*)
Yellowish gentian (*Gentiana alba*)
Bottle gentian (*Gentiana andrewsii*)
Prairie smoke (*Geum triflorum*)
Stiff sunflower (*Helianthus pauciflorus*)
Alum-root (*Heuchera richardsonii*)
Long-leaved bluets (*Houstonia longifolia*)
Wild iris (*Iris versicolor*)
Rough blazing star (*Liatris aspera*)
Meadow blazing star (*Liatris ligulistylis*)
Dotted blazing star (*Liatris punctata*)
Tall blazing star (*Liatris pycnostachya*)
Prairie phlox (*Phlox pilosa*)
Mountain mint (*Pycnanthemum virginianum*)
Arrow-head (*Sagittaria latifolia*)
Showy goldenrod (*Solidago speciosa*)
Heath aster (*Symphyotrichum ericoides*)
Smooth aster (*Symphyotrichum laeve*)
New England aster (*Symphyotrichum novae-angliae*)
Azure aster (*Symphyotrichum oolentangiense*)
Red-stalked aster (*Symphyotrichum puniceum*)
Tall meadow rue (*Thalictrum dasycarpum*)
Culver's root (*Veronicastrum virginicum*)
Prairie violet (*Viola pedatifida*)

Grasses and Sedges

http://www.prairieresto.com/CategoryList.php?cID=12

Blue joint grass (*Calamagrostis canadensis*)
Plains oval sedge (*Carex brevior)*
Fox sedge (*Carex vulpinoidea*)
Hardstem bulrush (*Schoenoplectus acutus*)
Soft-stem bulrush (*Schoenoplectus tabernaemontani*)
Green bulrush (*Scirpus atrovirens*)
Wool grass (*Scirpus cyperinus*)
Cord grass (*Spartina pectinata*)
Prairie dropseed (*Sporobolus heterolepis*)

G. Management: http://www.prairieresto.com/management_overview.shtml

1. Management (maintenance) plays a vital role in the eventual success of any native landscape installation, especially during the establishment period. Active management of your native landscape is highly recommended to give the project the best opportunity for long term success.

2. During the germination year, the project area may need to be mowed to control annual weed development. If a "closed" canopy of weed cover develops, it should be mowed to aid in the growth of the prairie seedlings by reducing competition. Mowing may also be necessary if the weeds are about to set seed. Optimum cutting height, depending on the wildflower species present, is typically 4 to 6 inches. It is important that the clippings are finely mulched in order to prevent smothering. PRI can provide the mowing services if desired. Please refer to the cost section of this proposal for a mowing quote.

3. In years following the first growing season, Integrated Plant Management (IPM) services are utilized to control annual, biennial and perennial weed species within the developing native landscape. Typical IPM services include spot herbicide spraying, spot mowing, herbicide wicking or hand weeding. These services are billed on a per trip cost agreed upon prior to the growing season. Rough estimates are provided in the cost section of this proposal for these future management activities.

4. Prescribed burning is a highly effective management tool and may be recommended for your project as it matures. Burning stimulates native species to grow more robustly and also help to deter the presence of many non-native and/or woody species. Prescribed burning, when recommended, will be provided as a separate lump sum cost.

5. In lieu of burning, or during years when the site is not burned, a Spring Dormant Mowing can be used to "clean up" previous year's growth and set the table for the new growing season. This mowing would occur early in the spring, as soon as conditions permit. Spring Dormant Mowing, when recommended, will be provided as a separate lump sum cost.

H. Anticipated Management:

The following table conveys the anticipated management procedures for your project during the first 3 growing seasons. Estimates for these procedures are provided in the cost section of this proposal.

Year	Projected Prairie Management Procedures
2017	Complete site mowings to control annual weed canopy (2 or 3 mowings as needed). Project monitoring
2018	Complete site mowing Integrated Plant Management (IPM) – includes spot spraying, spot mowing, wicking, hand weeding, and other techniques to control weeds and invasive species (3 to 4 visits are typical) Project monitoring
2019	Spring burn to encourage native plant growth and to help deter the presence of non-native and woody species. Integrated Plant Management (IPM) – 3 to 4 visits are typical Project monitoring

Year	Projected Buckthorn Management Procedures
2017	Fall Overspray
2018	Fall Overspray

I. Costs:

Project Installation:

Site prep, seed, seeding and erosion control as specified $4150

Buckthorn and woody plant removal
(*cutting, removal and stump treating*)..... $1350

Optional Native seedling plugs (*any amount installed @ $2.25 each*) ..... $

Vegetation Management:

Prairie/Pond Area Future Management Estimates:

Growing season 2017 *(assumes 3 IPM/mow visits)* $750
Growing season 2018 *(assumes 3 IPM visits)*..... $750
Growing season 2019 *(assumes 3 IPM visits and a prescribed burn)*..... $1550

Buckthorn Area Future Management Estimates:

Fall 2017 *Buckthorn overspray*..... $375
Fall 2018 Buckthorn overspray..... $375

Please note:

1) If project is accepted along with the Paulson project and installed concurrently, a 20% discount will be applied site prep, seed, seeding, erosion control and buckthorn removal items.

2) The ***Future Management Estimates*** are meant to convey typical management costs for projects of similar size and characteristics. Prior to each growing season, you will receive a specified quote from your project manager detailing the recommended management strategies and associated costs for your project.

3) PRI will provide a follow-up consultation approximately 1 month after the completion of the project (if the project was seeded in the fall, the consultation will occur the following spring). The Restorationist (or salesperson) will meet with the project owner to assess the status of the project, answer any questions, and provide any necessary recommendations. This follow-up consultation will be provided at no additional cost.

J. Contract:

If you accept the proposal as written and want to proceed with the project, please sign the contract below.

Owner (print): **_____Date:_____**

Signed: _____Title:_____

Project Name: _____Contract Value: $_____

Contractor: *Prairie Restorations, Inc.*

Signed: _____Date: _____

Jeff West – Site Manager
Prairie Restorations, Inc.
21120 Ozark Court North
Scandia MN 55073

A 20% down payment is required at this time. Please return a copy of the signed contract, along with payment for 20% of the total project cost. The remainder of the contract will be billed upon completion.

K. Notes: Please note that this proposal is valid for 1 months (from the date on the proposal). If the proposal is accepted after the 1 month period, PRI reserves the right to modify the proposal based on cost fluctuations and material availability.

Restoration outline prepared by Prairie Restorations, Inc. (PRI), Princeton, Minnesota