

## Niagara River Greenway Ecological Fund Application Checklist

**Project Name:** Green Infrastructure & Native Landscape Planning at Tifft Nature Preserve

**Prepared By:** David Spiering

**Date:** May 30, 2014

Item	
	<b>Project Information</b>
X	Organization name and mailing address
X	Federal ID number and/or Charities Registration number
X	Point of contact
	<b>Evidence of Consultation (including consulting parties' comments and project proponent's responses to those comments)</b>
X	Niagara River Greenway Commission
X	Municipality, County, and/or Indian Nation
NA	State Agency
NA	Federal Agency
X	<b>Operation and Maintenance Plan</b>
X	<b>Description of Project Consistency with Niagara River Greenway Plan</b>
X	<b>Description of Consistency with State and Federal Laws &amp; Regulations</b>
X	<b>Description of Efforts/Opportunities for Matching Fund</b>
X	<b>Description of Current and Proposed Project Area Land Ownership</b>
X	<b>Detailed Project Budget</b>



**AUTHORIZED OFFICIAL**

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**PROJECT POINT OF CONTACT**

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## **PROJECT NARRATIVE**

- 1. In a brief paragraph, describe the project and its purpose, how and when it will be accomplished, and why it is important.**

### **Brief Narrative**

The Buffalo Museum of Science is starting a one year project to plan and design green infrastructure features, improved access to the Tiff Nature Preserve Environmental and Sustainability Center and trails, invasive species control and native landscaping, and interpretation of suitable features of the facility. When fully installed this project will improve access for the tens of thousands of visitors to the preserve each year, manage all stormwater onsite in an environmentally responsible manner, and also expand native habitat on the site. The final design will include four main components.

1. A green infrastructure design to manage storm water around the Tiff Nature Preserve Environmental and Sustainability Center that may include features such as bioretention basins, rain gardens, permeable paved surfaces, and rain barrels. Due to constraints from the industrial history of the site, the design will need to be innovative and will demonstrate how green infrastructure is still possible in challenging situations.
2. A site plan and design that will improve access and safety for school children, families, visitors with special needs, and the general public within the entry drive, parking lot, and walkways around the building. All improvements for access will be incorporated into the green infrastructure design for the site.
3. Plans to enhance habitat for birds, butterflies, pollinators, and other wildlife through the removal of invasive species and the use native plants for landscaping and vegetation in green infrastructure features.
4. A program for public interpretation of the sustainable and environmental features at Tiff Nature Preserve to educate students and the public about the environment, green infrastructure, and sustainable design solutions.

## Detailed Narrative

### Project Need

Tiff Nature Preserve is a 264-acre urban nature preserve, operated by the Buffalo Museum of Science visited by tens of thousands of people each year. Visitors enjoy hiking five miles of trails, fishing, picnicking, bird watching, snowshoeing, or just getting outside, all of which are free of charge to the public. In facilitated school and public education programming, Tiff Nature Preserve serves 10,000 students and life-long learners annually. With this demand for environmental education and outdoor recreation the current facilities at the preserve are at capacity.

Over the past five years, the Buffalo Museum of Science has invested funds, staff time and resources to plan, finance, and implement improvements and expand the existing visitor center. To fully expand our capacity and complete the transformation of the visitor center into the Tiff Environmental and Sustainability Center the exterior site immediately surrounding the facility needs improvements.

The existing parking lot and entry drive are gravel surfaces that are messy in spring and wet weather, require significant annual maintenance, and do not provide sufficient access for school children, families, or visitors with special needs (Fig. 1). Over thirty years of vehicle traffic has compacted the gravel so much that it is no longer a permeable surface and there is significant runoff of stormwater during heavy rainfall events. The dirt or uneven brick covered paths to the building are also not suitable for visitors with special needs and cannot accommodate large groups of school children. A smooth and even surface on the entry drive, parking lot, and walkways would make access safer and accommodate a wider range of visitor needs. These access improvements will be planned in conjunction with a green infrastructure design to manage storm water and eliminate potholes, puddles, muddy and slick areas, and reduce untreated runoff into adjacent water bodies.

Existing vegetation on the site is primarily mowed grass with few planted trees. Japanese knotweed and *Phragmites*, are invasive species that grow and are spreading within the area. These species compete with native vegetation and reduce the habitat potential of the site. Following the control of these species, native vegetation will be planted to enhance habitat for butterflies, pollinators, birds and other wildlife.

## **Project Components**

### ***Green Infrastructure Design & Improved Visitor Access***

These two project components need to and will be designed together. Green infrastructure uses vegetation, soils, hydrologic features, and natural processes to manage storm water to create healthier urban and built environments (US EPA). Green infrastructure components include rain gardens, bioswales, permeable paved surfaces, tree canopies, and rainwater harvesting, among others. This project will develop an innovative design of green infrastructure components within the constraints posed by the industrial history of the site to manage 100% of storm water around the Tiff Nature Preserve Environmental and Sustainability Center. Currently there is significant runoff of stormwater from the entry drive and parking lot during heavy rainfall events.

Green infrastructure features will function alongside access improvements that will replace the existing gravel entry drive and parking lot and uneven brick walkways with smooth and even surfaces. This will improve access for all visitors, especially student groups, families, and people with special needs. See Figure 2 for a conceptual drawing of a potential site plan scenario. Visitor safety could also be improved by installing exterior lighting within the parking lot and around the building. Solar powered energy efficient LED light posts could provide this outdoor lighting and minimize the environmental impact compared to conventional street lighting. Options for outdoor lighting for safety will be explored and included in the site plan.

Initial investigation of geotechnical survey work in 2012 by R&P Oak Hill Development LLC revealed layers of clay near the soil surface that prevents water infiltration. Due to the industrial history and past dumping at the site, excavating 12-24" below grade to remove this clay and install porous sub-base material required for permeable paved surfaces may be challenging and expensive since excavated material may need to be treated and handled as solid waste. Therefore, access improvements to the entry drive, parking lot, walkways and associated green infrastructure will be designed to minimize disturbance and excavation of the existing soil/gravel surface. However, several green infrastructure and access improvement options will be considered for feasibility, effectiveness, and cost.

### ***Native Landscaping to Enhance Habitat***

There will be several aspects of the site plan that will enhance the habitat for native species around the Tift Environmental and Sustainability Center. The invasive species Japanese knotweed and *Phragmites* will be controlled using a combination of methods such as mechanical cutting, weed barrier fabric, and small amounts of herbicide which are currently being successfully used for control of these species within the wetland and woodland areas of the preserve.

To replace the invasive species and enhance habitat, a planting plan for native species of grasses, flowering plants, shrubs, and small trees will be developed. Features of the green infrastructure design such as bioretention basins and rain gardens will also include native species to increase habitat value. Native gardens of grasses and flowering plants designed to attract butterflies, pollinators, and grassland birds will be designed for areas in front of and around the building. Native shrubs and small trees with dense growth forms such as willows and dogwoods may be planted along the shore of Lake Kirsty to prevent establishment of new stands of Japanese knotweed, reduce access to unsafe areas of riprap, and improve shoreline habitat. These project aspects will not only create aesthetically pleasing native landscaping around the Tift Environmental and Sustainability Center, but will also address challenges and habitat improvements identified in the Tift Nature Preserve Management Plan (<http://www.sciencebuff.org/tift-nature-preserve/about-tift/>). See Appendix A for an example of native plantings and landscape design.

### ***Education, Interpretation & Demonstration Site***

The Buffalo Museum of Science and Tift Nature Preserve are committed to educating the public about the environment and the need to make sustainable choices. The Tift Environmental and Sustainability Center will serve as a demonstration site for education and interpretation of green infrastructure for storm water management, renewable energy, invasive species control, and landscaping for wildlife with native plants. This will be accomplished by interpretive signage of sustainable features around the building, hands-on interactive exhibits within the building, and through direct facilitation by preserve staff during student and public programs.

## **Project Benefits**

This project will provide several benefits including a plan to enhance public access to the Tifft Environmental and Sustainability Center and the preserve trails. Improved local water quality through the use of green infrastructure to manage 100% of onsite stormwater is a major ecological benefit for a site hydrologically connected to a Lake Erie and so close to the Buffalo River. Also, the enhanced habitat by eradicating invasive species and the planting of native vegetation will benefit local populations and public viewing opportunities of butterflies, pollinators, and grassland birds. These benefits will extend beyond Tifft Nature Preserve since all aspects of the project will be used to educate students and the public about nature and the environment, and demonstrated sustainable design solutions that can be implemented at other sites. Finally, the implementation of the site plan designed for this project will allow Tifft Nature Preserve to increase its capacity and grow its over 30 year history of providing high quality environmental education and access to nature in Western New York.

## **Project Timeline**

<b>Fall 2014</b>	Phase I of Tifft Environmental and Sustainability Center expansion completed
-----Prior to Niagara River Greenway Funding for Planning-----	
<b>Fall 2014</b>	RFP for design of site plan and construction documents for green infrastructure and access improvements
<b>Winter 2015</b>	In conjunction with site planning and design, develop plans for invasive species control, native landscaping, wildlife habitat enhancements, and interpretive programming
<b>Summer 2015</b>	Complete all components of site plan and design Secure funding for project construction and implementation
-----Post Niagara River Greenway Funding for Planning-----	
<b>Summer 2016</b>	Begin construction of site plan

**2. Referring to the Niagara River Greenway Plan, clearly document and describe how the proposed project will advance the Niagara River Greenway vision including the principles, goals, and criteria that define that vision.**

The Green Infrastructure and Native Landscaping at Tiff Nature Preserve Planning project advances the vision of the Niagara River Greenway and is well in line with the principles, goals, and criteria of that vision.

***Principles – Excellence, Sustainability, Accessibility, Ecological Integrity, Public Well-Being, Connectivity, Restoration, Authenticity, Celebration, Partnerships, Community Based***

**Excellence** – The proposed project will allow for the continuation of over 30 years of quality environmental education at Tiff Nature Preserve and build upon the 152 year history of research and science education at the Buffalo Museum of Science.

**Accessibility** – The planned project will include accessible features such as smooth and even surfaces to access the visitor center and preserve trails. The trails at Tiff Nature Preserve are open to the public during daylight hours every day of the year and the Tiff Sustainability Center is open Wednesday through Sunday, all at no cost.

**Ecological Integrity** – The goal of the planning process is to improve the ecological integrity and sustainability at Tiff Nature Preserve. Specific features to be designed include green infrastructure for storm water management, renewable energy and energy conservation technology, solid waste reduction, invasive species control and native plantings to enhance wildlife habitat.

**Public Well-Being** – Tiff Nature Preserve provides a location for students and the public to expand their knowledge and understanding of their environment, as well as a place to relax and unwind on a peaceful walk in a natural setting.

**Connectivity** – Tiff Nature Preserve functions as the southern gateway to the Niagara River Greenway and is well connected to the Lake Erie waterfront and Buffalo Outer Harbor.

**Restoration** – Educational displays and interpretation of the onsite restoration of an industrial brownfield into a nature preserve will be highlighted and on display in the Tiff Environmental and Sustainability center.

**Authenticity/Celebration** – A major mission of Tiff Nature Preserve is to promote the environment and natural resources of the Niagara River Greenway. At the same time, we interpret the rich industrial history of the area and make connections between environments of the past and present.

**Community Based** – Tiff Nature Preserve serves the entire community of the Niagara River Greenway including: school children, youth groups, families, bird watchers, seniors, and nature lovers of all types.

***Goals – Improve Access, Make Connections, Protect and Restore Environmental Systems, Spark Revitalization and Renewal, Promote Long Term Sustainability, Extend the Legacy of Frederick Law Olmsted, Celebrate History and Heritage***

**Access** – The Tiff Environmental and Sustainability Center accommodates heavy visitation and is extensively used for school, public, and scout programs. Planning to improve access for visitors, including those with special needs, is a major component of this project.

**Make Connections** – Tiff Nature Preserve provides a valuable site to connect students and the public with the environment and natural resources of the Niagara River Greenway. This project will allow the Museum to further expand and develop those connections.

**Protect and Restore Environmental Systems** – Water quality in Lake Kirsty on the preserve which is directly connected to Lake Erie will be protected and improved through a properly designed storm water management system. A plan for non-native invasive species control and the planting of native plants to provide habitat for birds, butterflies and pollinators will also be developed.

**Celebrate History and Heritage** – Tiff Nature Preserve has a rich history as a commercial and industrial site. How this history and past land uses affect the current environment and management of the site will be communicated to students and the public through interpretive signage and facilitated programs.

**Spark Revitalization and Renewal** – Tiff Nature Preserve provides valuable natural and recreational amenities that add greatly to the quality of life of area residents, as well as attracting tourists and new investment to the area. Planned improvements to the site will complement and enhance recent developments along the Lake Erie waterfront.

**Promote Long Term Sustainability** – Planning for storm water management, renewable energy technology, energy conservation, and solid waste reduction are all included in this project. When implemented, these technologies and practices will be on display to the thousands of visitors to the preserve. Improvements to the site will also allow the Museum to pursue additional uses and revenue sources to maintain and operate Tiff Nature Preserve.

***Criteria – Consistency with the NRG Principles, Priority Status, Focus Area, Environmental Soundness, Implementable, Economic Viability, Availability of Local Sponsors or Partners, Ability to Match or Leverage Funds, Consideration of Other Planning Efforts, Clear Benefits***

**Consistency with the Principles** – The Green Infrastructure and Native Landscaping at Tiff Nature Preserve project is consistent with all of the principles of the Niagara River Greenway and makes significant contributions to improving the Ecological Integrity, Accessibility, Public Well-Being, and Restoration of the Niagara River Greenway.

**Priority Status** – This project incorporates several priorities identified in the Niagara River Greenway Plan including: providing access to water front resources, interpretation and education about the region’s cultural, natural and historic resources, and revitalization of urban centers. Tiff Nature Preserve is used as an example of an ‘Ecological Center’ in the plan. With its location only three miles from downtown Buffalo and also functioning as the southern gateway to the Niagara River Greenway, Tiff Nature Preserve is a strategic location in an ‘Interpretive Center Network’.

**Focus Area** – Tiff Nature Preserve is within the focus area delineated in the plan and functions as the southern gateway to the Niagara River Greenway.

**Environmental Soundness** – Planning for green infrastructure and native landscaping at Tiff Nature Preserve is environmentally sound and includes storm water management, renewable energy and energy conservation technology, solid waste reduction, invasive species control and native plantings. This will not only reduce our ecological footprint, but the preserve itself will be used as a teaching tool and model for environmental sustainability.

**Implementable** – Planning for green infrastructure and native landscaping improvements at Tiff Nature Preserve is implementable and feasible as outlined in this proposal.

**Economic Viability** – Improvements to the site will allow the Museum to pursue additional uses and revenue sources to maintain and operate the preserve.

**Availability of Local Sponsor or Partners** – The Buffalo Museum of Science has managed and operated Tiff Nature Preserve since 1982 as a high quality natural and educational resource for the region.

**Ability to Match or Leverage Funds** – The Buffalo Museum of Science will provide half of the cost of this project from other sources including grants, foundation support, donations, or general funds.

**Considerations of Other Planning Efforts** – Planning for improvements at Tiff Nature Preserve are consistent with, and would help achieve, the vision and goals of many other planning efforts including: City of Buffalo Comprehensive Plan, Local Waterfront Revitalization Plan, New York State Significant Coastal Fish & Wildlife Habitat, and the South Buffalo Brownfield Opportunity Area (BOA) Plan. See below for more detail on how Tiff Nature Preserve is mentioned in these documents.

**Clear Benefits** – Clear benefits of this project include a plan to expand access to environmental education and recreation, improve local water quality, increase sustainability and energy efficiency on the preserve, control invasive species, enhance native species habitat, and expand revenue sources to maintain and operate Tiff Nature Preserve.

**3. Define the budget for the proposed project and include costs for the following:**

<b>Planning</b>	\$ <u>90,000</u>
<b>Construction</b>	\$ _____
<b>Acquisition</b>	\$ _____
<b>Administration</b>	\$ <u>10,000</u>
<b>Operation and Maintenance/Year</b>	\$ _____
<b>TOTAL PROJECT COST</b>	\$ <u>100,000</u>

**Detailed Project Budget**

<b>Expense Category</b>	<b>Cost</b>	<b>Design Implementer</b>
Feasibility Analysis & Design of Green Infrastructure, Stormwater Pollution Prevention Plan	\$20,000	Engineering Firm
Construction Documents for Access Improvements (accessible walkways, parking lot & drive)	\$25,000	Engineering Firm
Soil Testing & Solid Waste Determination Soil Management Plan Beneficial Use Determination	\$35,000	Engineering Firm
Invasive Species Control Plan Native Landscaping Plan	\$5,000	Buffalo Museum of Science
Interpretation & Education	\$5,000	Buffalo Museum of Science
Project Management & Administration	\$10,000	Buffalo Museum of Science
<b>Total Project Costs</b>	<b>\$100,000</b>	

**Funding Allocation**

Greenway Ecological Standing Committee	\$80,000
Buffalo Museum of Science	\$20,000

Funding to implement this project will be pursued from the following sources:

- The Green Innovation Grant Program (GIGP) through the New York State Environmental Facilities Corporation
- Water Quality Improvement Project (WQIP) Program through the New York State Department of Environmental Conservation
- Municipal Parks Grant Program through New York State Office of Parks, Recreation and Historical Preservation
- A capital campaign organized by the Buffalo Museum of Science

Although the property of Tiff Nature Preserve is owned by the City of Buffalo, The Buffalo Museum of Science receives no financial or in-kind support from the city for planning, operations, or capital improvements at the preserve.

We feel that this project is within the scope of the GIGP and that the Buffalo Museum of Science will be very competitive for GIGP funding in 2015, but documents and design work by certified professionals outside the expertise of Museum employees is required to apply for this funding. Therefore, we are requesting the seed money for design to start this large project that we will be funded primarily, if not entirely, by sources other than the Niagara River Greenway, but will provide many ecological and public benefits to the region.

The planning and eventual improvements to access, stormwater management, native landscaping, and environmental education outlined in this proposal are part of a larger project that already exceeds \$1.1 million in upgrades and expansion to the Tiff Environmental and Sustainability Center. This project will add to and enhance those improvements.

**4. Describe the measures taken at the local level to gain community and government support for this project (hearings, petitions, public surveys, resolutions of support, etc).**

See attached letters of support from the following:

Christopher P. Scanlon, South District Common Council Member, City of Buffalo  
Dave Stebbins, Vice President, Buffalo Urban Development Corporation

See attached Determination of Consistency and comments from the Niagara River Greenway Commission

***If this project has been cited or described in a local planning document or some equivalent thereof, attach copies of that documentation highlighting the sections that are relevant to the proposed project.***

Tifft Nature Preserve is mentioned several times in the Niagara River Greenway Plan and this project incorporates several priorities identified in the plan (pg. 29-31) including: providing access to water front resources, interpretation and education about the region's cultural, natural and historic resources, and revitalization of urban centers. Tifft Nature Preserve is even used an example of an 'Ecological Center' (pg. 100) in the plan. With its location only three miles from downtown Buffalo and also functioning as the southern gateway to the Niagara River Greenway (pg. 102), Tifft Nature Preserve is a strategic location in an 'Interpretive Center Network' (pg. 100). Tifft Nature Preserve is also mentioned and highlighted in the following local and statewide documents:

- City of Buffalo Comprehensive Plan – Tifft Nature Preserve is cited as part of the city's "Green Infrastructure" (Fig. 32) and as a "Destination Park" (Fig. 35), a distinction given to only 16 of Buffalo's 120 parks.
- Local Waterfront Revitalization Plan – In this plan, Tifft Nature Preserve is highlighted for its Public Access and Recreation (Map 2-8, p. II-44).
- New York State Significant Coastal Fish & Wildlife Habitat – Tifft Nature Preserve is designated by the Department of State as a Significant Coastal Fish & Wildlife Habitat with an extremely high significance score of 84 points (the highest in Western New York). The rating form also states, "[the preserve] is the most

heavily used environmental education center in the region.” This project will enhance the site around the education center and allow for continued quality environmental education to be provided to a large segment of the population. Rating form available at <http://www.nyswaterfronts.com/index.asp>.

- South Buffalo Brownfield Opportunity Area (BOA) Plan – The South Buffalo BOA plan is the most recent local planning effort. This plan highlights the importance of Tifft Nature Preserve as an asset to the region and an integral piece of the revitalization of South Buffalo that includes an enhanced interpretive center for Tifft Nature Preserve. (Map 5.2, p. 129; p. 160-161, p. 174)

***Describe the role of municipal agencies, stakeholder groups, consultants, volunteers, or others who will be involved in the proposed project.***

Tifft Nature Preserve Ecologist – The Tifft Nature Preserve ecologist will be the project coordinator and involved in managing the project through planning and design. He will also lead the planning work on invasive species control, native landscaping and habitat improvements, and assist with educational program development.

Consulting & Engineering Firms – Consulting firms with expertise in environmental and civil engineering, with an emphasis on ‘green infrastructure’ experience, will be contracted for planning, design, construction documents, and permitting. All firms will be hired through a competitive bid process.

Buffalo Museum of Science Tifft Site Planning Team – This team will work with hired consultants and engineers to provide a vision and direction for the project. This team will include the President & CEO, Director of Operations, Director of Education, and Educators at Tifft Nature Preserve. Buffalo Museum of Science staff will also develop the content for educational programming and interpretation.

Tifft Nature Preserve Standing Committee of the Buffalo Society of Natural Sciences – This committee is dedicated to managing and supporting Tifft Nature Preserve. Committee members provide volunteer services with expertise in construction, fund raising, and legal affairs.

**5. Describe and document the environmental setting and existing conditions at the proposed site. If you are not the owner of the property include a letter(s) or resolution(s) evidencing support for the project by the owner.**

Tifft Nature Preserve is a 264-acre urban nature preserve, operated by the Buffalo Museum of Science. Located in South Buffalo, the area was formerly used as a transshipment facility and dump until it was designated a nature preserve in the early 1970s. Despite the industrial history of the site, it provides valuable wildlife habitat and greenspace within the city limits. Major habitats on the preserve include: a 75-acre remnant cattail marsh, woodlands, grasslands, and three ponds. The cattail marsh, which is the largest remnant wetland in Erie County, provides nesting habitat for rare marsh birds and the woodlands are an important stop-over site for migrating birds.

Tifft Nature Preserve is owned by the city of Buffalo and leased by the Buffalo Society of Natural Sciences (i.e. Buffalo Museum of Science) for operation of the nature preserve. The museum has management authority and responsibility for the property and works collaboratively with the City of Buffalo. All maintenance of facilities at Tifft Nature Preserve is conducted by the preserve ecologist or the Buffalo Museum of Science's Department of Operations.

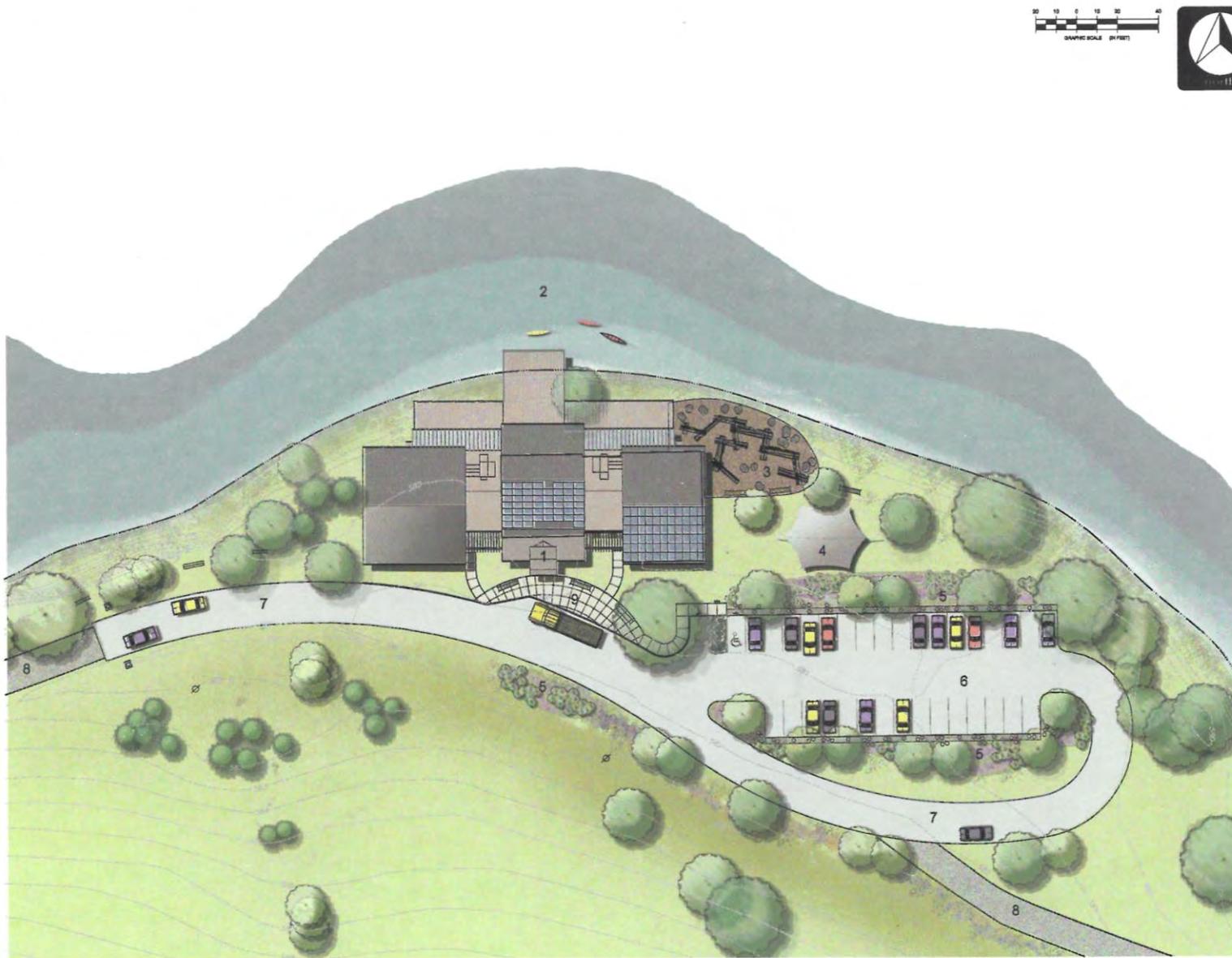
***Describe how your project will comply with the State Environmental Quality Review Act (SEQRA). The existence of wetlands, significant upland and aquatic habitats, and plant or animal species that are classified as rare, threatened, or endangered should be noted. Explain how such natural resources will be protected and/or enhanced.***

Through the planning process, all relevant environmental regulations and permits will be identified and factored into the final design and implementation of the project. This proposed project site is not within or adjacent to the designated wetland on the preserve and is well outside the 100-foot wetland buffer protected by Article 24 of the Environmental Conservation Law. Also, the project is not located within or would negatively impact the habitat of any state listed wildlife that occurs on the preserve. Due to the industrial history and dumping on the site, all soil disturbed for construction will be assessed if it is solid waste and managed accordingly, as described in Part 360 of the Environmental Conservation Law.

*Provide photographs, conceptual plans, and drawings that show the site as it presently exists and how the site will change with the addition of the proposed project.*



**Fig. 1** – 2011 Aerial photo showing existing site conditions including: visitor center prior to expansion, gravel parking lot and access drive



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REVISIONS

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SCALE AS NOTED	
DATE MAY 2012	

ILLUSTRATIVE  
 SITE  
 PLAN

Fig. 2 – Conceptual drawing of a potential site plan for Tift Nature Preserve (layout and details may change in final design)

## Appendix A – Native Plantings and Landscaping

Native gardens to attract and provide habitat for birds, butterflies and pollinators will be planted around the building, parking lot and access drive. Stock seed mixes that are suitable for these types of plantings include Northeast Native Wildflower Mix (ERNMX-153) from Ernst Conservation Seed, Inc. in Meadville, PA or the Tallgrass Exposed Clay Subsoil Mix from Prairie Moon Nursery in Winona, MN. These and similar seed mixes will be the starting point for the exact mix of species to be planted at Tiff Nature Preserve, but the species and relative amounts of each species will be adapted to account for local soil and sunlight conditions, resistance to deer browsing, desired vegetation height, maintenance requirements, and aesthetics. Seed mixes are usually planted in the range of 10-15 lbs. of seed per acre and will be planted on the heavy side of this range to ensure the establishment of a robust stand of vegetation. A list of potential species for these gardens and landscaping is below, but species may be added or removed from this list throughout project design.

### Native Grasses & Sedges

<i>Bouteloua curtipendula</i>	Side-Oats Grama
<i>Carex pensylvanica</i>	Pennsylvania Sedge
<i>Elymus canadensis</i>	Canada Wild Rye
<i>Panicum virgatum</i>	Switchgrass
<i>Schizachyrium scoparium</i>	Little Bluestem
<i>Sorghastrum nutans</i>	Indiangrass

### Flowering Plants that Attract Pollinators

<i>Agastache foeniculum</i>	Anise Hyssop
<i>Allium cernuum</i>	Nodding Onion
<i>Aquilegia canadensis</i>	Columbine
<i>Asclepias tuberosa</i>	Butterfly Milkweed
<i>Asclepias syriaca</i>	Common Milkweed
<i>Baptisia alba</i>	White Wild Indigo
<i>Chamaecrista fasciculata</i>	Partridge Pea
<i>Coreopsis lanceolata</i>	Lance-Leaf Coreopsis
<i>Echinacea</i> spp.	Purple Coneflowers
<i>Liatris aspera</i>	Button Blazing Star
<i>Monarda fistulosa</i>	Wild Bergamot
<i>Rudebeckia</i> spp.	Black-Eyed Susans
<i>Solidago speciosa</i>	Showy Goldenrod
<i>Symphotrichum laevis</i>	Smooth Blue Aster

These plant species provide food and habitat for a wide variety of butterflies and moths as adults and larvae including the Eastern tailed blue, American lady, Monarch, Pearl crescent, several species of Skippers and Sulphurs, and the Milkweed tussock moth, as well as pollen and nectar sources for a wide variety of native bees. Columbine, Purple coneflowers, and Wild bergamot are also known nectar sources for the Ruby-throated hummingbird. In addition to the flowering plants, native grasses also provide excellent habitat for insects. Indiangrass supports populations of grasshoppers, leafhoppers, and caterpillars. These insects are important food sources for songbirds which also feed on the many seeds of Indiangrass.

### **Lawns and Grassy Walkways**

In higher use areas that will receive some amount of foot traffic, non-invasive sod forming low stature grass species or cultivars will be used an alternative to a conventional turf lawn. The advantages to these alternative lawns are that they require less water and maintenance, while still providing an inviting and useful green space with a more natural character. Products such as Eco-Grass (#ECOG) and Buffalo Grass (#BUC02G) sold by Prairie Moon Nursery in Winona, MN will be considered along with other similar alternatives to turf lawns.

# The Buffalo Common Council

**CHRISTOPHER P. SCANLON**  
SOUTH DISTRICT COUNCIL MEMBER  
65 NIAGARA SQUARE, 1401 CITY HALL  
BUFFALO, NY 14202-3318  
PHONE: (716) 851-5169 ♦ FAX: (716) 851-4294  
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PEGGY SHEA  
JUSTIN STEINWANDEL

January 23, 2014

Mr. Mark Mortenson  
Buffalo Museum of Science  
1020 Humboldt Parkway  
Buffalo, NY 14211-1208

Dear Mr. Mortenson,

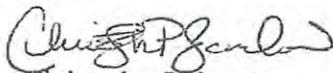
As the City of Buffalo South District Common Councilmember, I am pleased to offer my full support to the Buffalo Museum of Science for the *Tift Sustainability Center Landscaping Plan* submitted to the Niagara River Greenway Commission.

Tift Nature Preserve serves a large segment of the public with environmental education and outdoor recreation. This project helps achieve the goals and vision of the not only the Niagara River Greenway Plan, but also the City of Buffalo Local Waterfront Revitalization plan and the South Buffalo Brownfield Opportunity Area Nomination Study.

This project will benefit visitors by improving access and amenities at Tift Nature Preserve in an environmentally sustainable manner. Tift Nature Preserve is not only reducing its own ecological footprint, but also serving as a demonstration site to educate others about green infrastructure to manage storm water, planting native plants as landscaping to enhance wildlife habitat, utilizing renewable and energy efficient technologies, and waste reducing practices.

I strongly encourage you to consider the application of the Buffalo Museum of Science for the *Tift Sustainability Center Landscaping Plan*.

Sincerely,

  
Christopher P. Scanlon  
South District Councilmember

**Buffalo Urban Development Corporation**

95 Perry Street • Suite 404  
Buffalo, New York 14203

phone: 716-856-6525

fax: 716-856-6754

web: [buffalourbandevelopment.com](http://buffalourbandevelopment.com)

January 15, 2014



Mr. Mark Mortenson  
Buffalo Museum of Science  
1020 Humboldt Parkway  
Buffalo, New York 14211-1208

Dear Mr. Mortenson,

On behalf of Buffalo Urban Development Corporation (BUDC), I am pleased to offer my support to the Buffalo Museum of Science for the *Tiff Nature Preserve Green Infrastructure and Landscaping Project* submitted to the Niagara River Greenway Commission.

Tiff Nature Preserve serves as the environmental and sustainable education hub of the region and this project will help continue and expand that work. The green infrastructure components to manage storm water, the native landscaping to benefit wildlife, and sustainable technologies to reduce energy use and waste will improve the environment and quality of life of area residents. This project will additionally help improve local water quality and accessibility to the preserve and visitor center as well as the adoption of plans to oversee invasive species control, landscaping with native plants to enhance wildlife habitat, sustainable energy technologies, and waste reduction practices.

In compliance with the City of Buffalo's Local Waterfront Revitalization plan, the Tiff Nature Preserve is an integral piece of the implementation of the South Buffalo Brownfield Opportunity Area (SBBOA). An enhanced interpretive center at Tiff Nature Preserve is included as an initiative of the SBBOA and this project will help fulfill part of that goal. This project will benefit visitors by improving access and amenities at Tiff Nature Preserve in an environmentally sustainable manner. Tiff Nature Preserve is not only reducing its own ecological footprint, but will also serve as a demonstration site to educate others about green infrastructure to management storm water, using native plants for landscaping, utilizing renewable and energy efficient technologies, and waste reducing practices.

I strongly encourage you to consider the application of the Buffalo Museum of Science for the *Tiff Nature Preserve Green Infrastructure and Landscaping Project*.

Sincerely,

David A. Stebbins  
Vice President



May 21, 2014

Mark Mortenson, President & CEO  
Buffalo Museum of Science-Tifft Nature Preserve  
1200 Fuhrmann Boulevard  
Buffalo, New York 14203

Dear Mr. Mortenson:

The Niagara River Greenway Commission is pleased to support the Buffalo Museum of Science's "Project Consultation and Review" package for the following project:

Green Infrastructure & Native Landscaping Planning at Tifft Nature Preserve

This project was deemed consistent to the Niagara River Greenway Plan as determined by the Niagara River Greenway Commission. The subjective evaluations were based on the principals, goals and criteria that define the Niagara River Greenway Plan. I have attached the Commission's comments and questions as well as public comments received on the projects submitted during the deliberation timeframe for your use. The Commission is pleased to support the Buffalo Museum of Science's project proposal and wish you great success.

Respectfully,

*Rob Belue*

R.A. Belue  
Executive Director

Cc: Erie, Buffalo, Olmsted Standing Committee  
David Spiering

## New York State Department of Environmental Conservation

### Niagara River Greenway Commission

#### Project Submissions: Round 39, May 20, 2014

##### *Old Stone Chimney Relocation & Riverview Heritage Park Development – City of Niagara Falls*

The City of Niagara Falls proposes to relocate an historic structure, the original stone chimney from a French colonial outpost, from its current location that has limited public access to a river side location accessible to the public. The project also involves significant landscaping and access enhancements to the site. Currently there is an Osprey nesting platform on site that was installed by NYPA in 2008 as part of a habitat improvement project undertaken as a Niagara Power Project relicensing commitment. To this date the platform has not been utilized by a nesting Osprey pair, so the proposal to relocate the pole and platform to a different location may be an acceptable action under the terms of the relicensing agreement. New York State Department of Environmental Conservation finds the proposal to be **consistent** with the Goals, Principles and Criteria of the Niagara River Greenway Plan.

##### *Green Infrastructure & Native Landscaping Planning at Tift Nature Preserve – Buffalo Museum of Science*

The Buffalo Museum of Science proposes to design and implement improvements to the landscape around the new facility at Tift Preserve that will enhance access as well as improve water and habitat quality. Integrating green infrastructure and native plantings will provide the public with an excellent demonstration of how the local environment can be improved and conserved through site specific measures. This project will also serve as a prime example of techniques that can be implemented throughout the Niagara Greenway to advance the vision set forth in the Greenway Plan. It is suggested that the Buffalo Museum of Science investigate the potential for this proposal to receive grant funding that is available for supporting green infrastructure improvements, such as the “Green Grants” currently available through the NYS Environmental Facilities Corporation, and other viable sources. New York State Department of Environmental Conservation finds the proposal to be **consistent** with the Goals, Principles and Criteria of the Niagara River Greenway Plan.

##### *Tuscarora Nation Picnic Grove Revitalization & Restoration – Tuscarora Nation*

The Tuscarora Nation proposes to make improvements to the area known as the “Picnic Grove” that will enhance the site for cultural and social events as well as the ecological integrity of the Fish Creek corridor. Cultural identity is an important component of the Greenway vision and the current proposal will advance that vision through making the site an inviting destination for visitors to the Greenway. New York State Department of Environmental Conservation finds the proposal to be **consistent** with the Goals, Principles and Criteria of the Niagara River Greenway Plan.

DOS comments for 39<sup>th</sup> round 5-20-14

Rob,

I reviewed the three project applications submitted for the 39<sup>th</sup> round of projects proposed under the Niagara River Greenway (NRG) with respect to the NRG Vision and Principles, Initial Greenway Goals, and the NRG Plan Criteria.

- Tuscarora Nation – Picnic Grove Revitalization and Restoration **CONSISTENT**
- Buffalo Museum of Science – Green Infrastructure and Native Landscaping Planning at Tift Nature Preserve **CONSISTENT**
- City of Niagara Falls – Old Stone Chimney Relocation & Riverview Heritage Park Development **CONSISTENT**

Also, I will not be able to make it to the May 20 NRG Commission meeting, and sure would appreciate your proxy vote. The completed proxy form is attached.

Please contact me with any questions.

Thank you,  
Renee

Renee Parsons  
Coastal Resources Specialist

NYS Department of State

Sam Magavern comments:

Here are my initial thoughts:

- 1) Old Stone Chimney. Consistent. A good celebration of history in a park right on the river.
- 2). Tiff Nature Preserve. Consistent. Valuable ecological and visitor improvements to a park within focus area and linked to shoreline parks and trails.
- 3) Tuscorara. Consistent (with a caveat). Although I would like to learn more about it, this project seems to meet the principles, goals, and criteria of the Plan with the way that it celebrates history and heritage and improves a green space for public purposes. However, I think this project falls into the gray zone of projects that are consistent with the Plan but not the law, which defines the Greenway as a linked system of parks, trails, and conservation areas. This project falls outside any existing or proposed linked system of parks and trails and it not located by the River. In the future, I hope that there is a policy change which rules projects inconsistent if they do not meet the statutory definition of the Greenway. In the meantime, however, it seems unfair to penalize projects that are consistent with the Plan, even if they are not consistent with the law that gave rise to the Plan.

Thank you.

Sam

#### Tuscarora National Picnic Grove:

1. I think connectivity to the Greenway is important for a project of this magnitude. I cannot see that there are foot/bike paths that would service a venue this big to fit into the Greenway commitment of connectivity to the trails.
2. This project has considerable external financing needs and no specific plan of obtaining these funds in such a short period of time.
3. I would like more clarification on "gaming" that is to be conducted on the site

#### Buffalo Museum of Science:

1. I feel that to achieve the objectives of the Niagara Greenway Commission these featured areas need to be inclusive of all persons, including persons with special needs. This project identifies that they will improve access, safety and accessibility with persons with disability. This project is in close proximity to some key area and has always been an important conservation area. It really is a focus and could use some upgrades to maintain the preserve.
2. The education interpretation and demonstration site section mentions renewable energy and invasive species control. I am curious how this fits with the Greenway Plan and personally curious of what these demonstrations would entail.
3. Appropriate funding sources seem well thought out and that the schedule of completion is feasible.

#### Niagara Falls

1. Connectivity is apparent. The site contents are a valuable piece of WNY heritage. The new position enhances the trail way system and increases visibility.
2. This schedule is aggressive for the approval, securing financing , land rights, planning, construction document, bid, contractor/ contacts, NTP, execution (masonry restoration and relocation is a painstaking process), completion. What is the backup plan if this time table cannot be met?
3. There is a track record of securing financing from GO/NGO's

Eric Bauer

## **Questions Asked By Commissioners at the May 20<sup>th</sup>, 2014 Meeting**

### The Tuscarora Nation- Tuscarora Nation Picnic Grove Revitalization & Restoration

1. Who is the contractor?
2. What is the total cost?
3. Do you have funds already?
4. Is it near the School or on school property?
5. Comment: this area is in need of work and it's a good project.
6. Where do the people who come to this location come from?
7. What is the connection to the trail way?
8. Is this open to the public year round?
9. Who owned the building/property?

### Buffalo Museum of Science- Green Infrastructure & Native Landscape Planning at Tift Nature Preserve

1. What portion of the funds are you requesting from the Greenway?
2. How big is the project in its entirety?
3. Have you gone to GIGP for money yet?
4. Comment: this is a much needed project.
5. Comment: this is an ecological opportunity along the Greenway.
6. Comment: hope to make this user-friendly for everyone.

### City of Niagara Falls- Old Stone Chimney Relocation & Riverview Heritage Park Development

1. Where is the chimney now and where is it moving?
2. Where does the public park?
3. What is the money used for?
4. Where is the money coming from?
5. Are there any other sites being considered for the chimney?
6. Will there be signage for this?
7. From a historical aspect, is there a better place for the chimney?