

Planning for the Future:

A Reuse Planning Report for the Calumet Container Superfund Site



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EPA Region 5
Superfund Redevelopment Initiative

funded by
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prepared for
Lake County, Indiana
City of Hammond, Indiana

prepared by
E² Inc.

technical advisor
Wildlife Habitat Council
Land Restoration Program

Introduction

From the 1960s until 1982, drum and pail reconditioning operations at the former Calumet Container site caused soil contamination throughout the 11-acre site. The site is located within a mixed-use industrial and residential area in Hammond, Lake County, Indiana. Approximately 90 percent of the site lies in Indiana while the remaining 10 percent is located in Illinois. Since 1982, EPA and Indiana's Department of Environmental Management (IDEM) have worked to address onsite contamination through a series of removal actions. In September 2005, a time-critical removal action began to address approximately 20,000 cubic yards of contaminated soils.

EPA's primary responsibility at Superfund sites is to ensure the protection of human health and the environment. Through the Superfund Redevelopment Initiative, EPA is also committed to the importance of considering reasonably anticipated future land uses when making remedy decisions at Superfund sites, and to ensure that the cleanup of Superfund sites allows for safe reuse for commercial, recreational, ecological, or other purposes. With forethought and effective planning, communities can return sites to productive use without jeopardizing the effectiveness of the remedy put into place to protect human health and the environment.

EPA Region 5 has provided resources to support the development of a reuse framework that will further inform EPA's removal action and wetland restoration plan for the site. The project's primary goal is to develop a reuse strategy that reflects community input and is consistent with the site's remedy. E² Inc., the project's consultant team, has worked with Lake County and City of Hammond officials to evaluate the locality's interest in the site's reuse as a park, the feasibility of a park at the site, and to establish reasonable expectations for the future use of the site. Through this process, Lake County and the City of Hammond have been able to formulate reuse goals and begin to plan for the future use of the site.

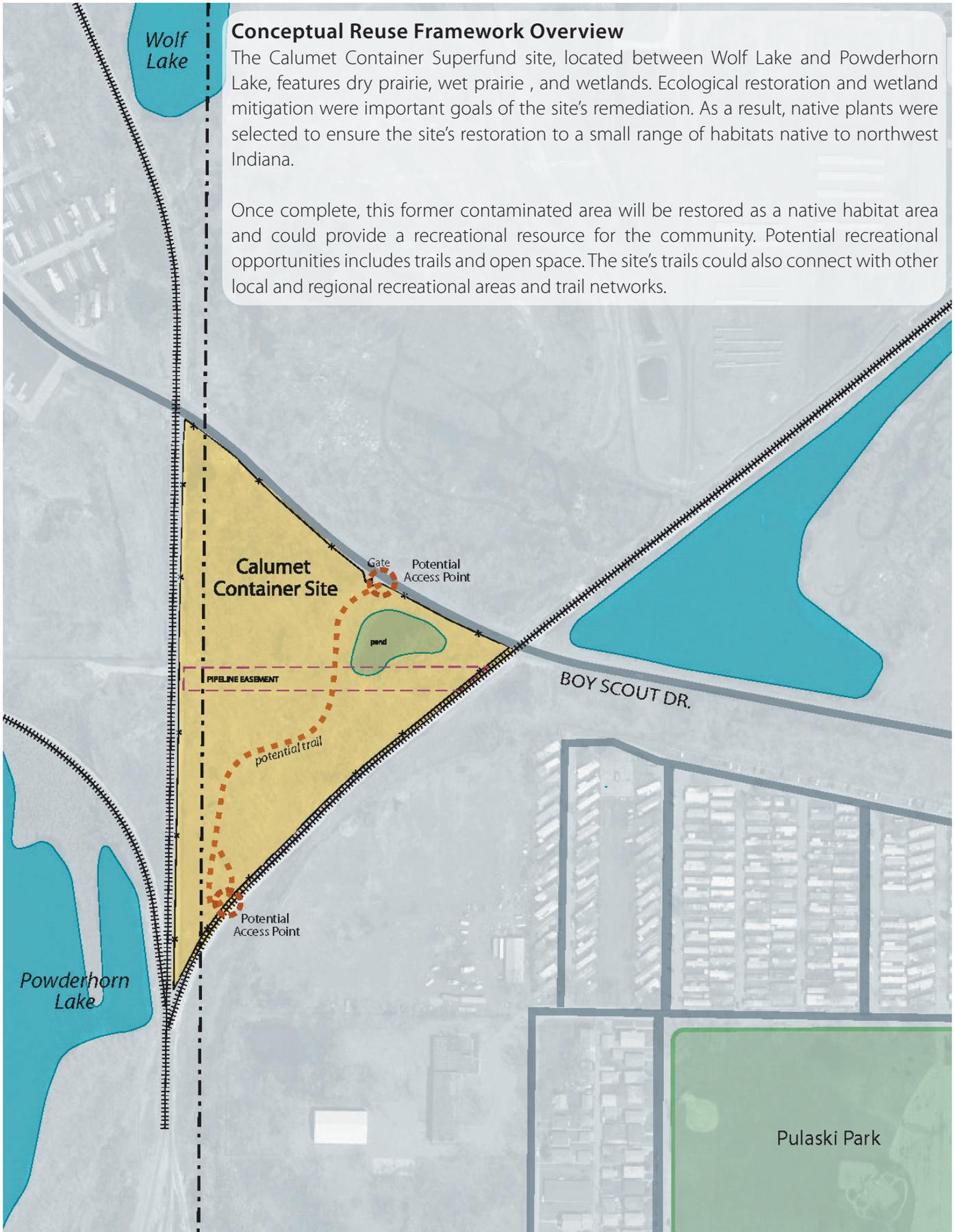
This report, prepared by the project's consultant team, presents the conceptual reuse framework for the site. The report highlights key reuse opportunities and considerations that Lake County, City of Hammond, EPA Region 5, and IDEM will need to keep in mind as the site is returned to use.



Conceptual Reuse Framework Overview

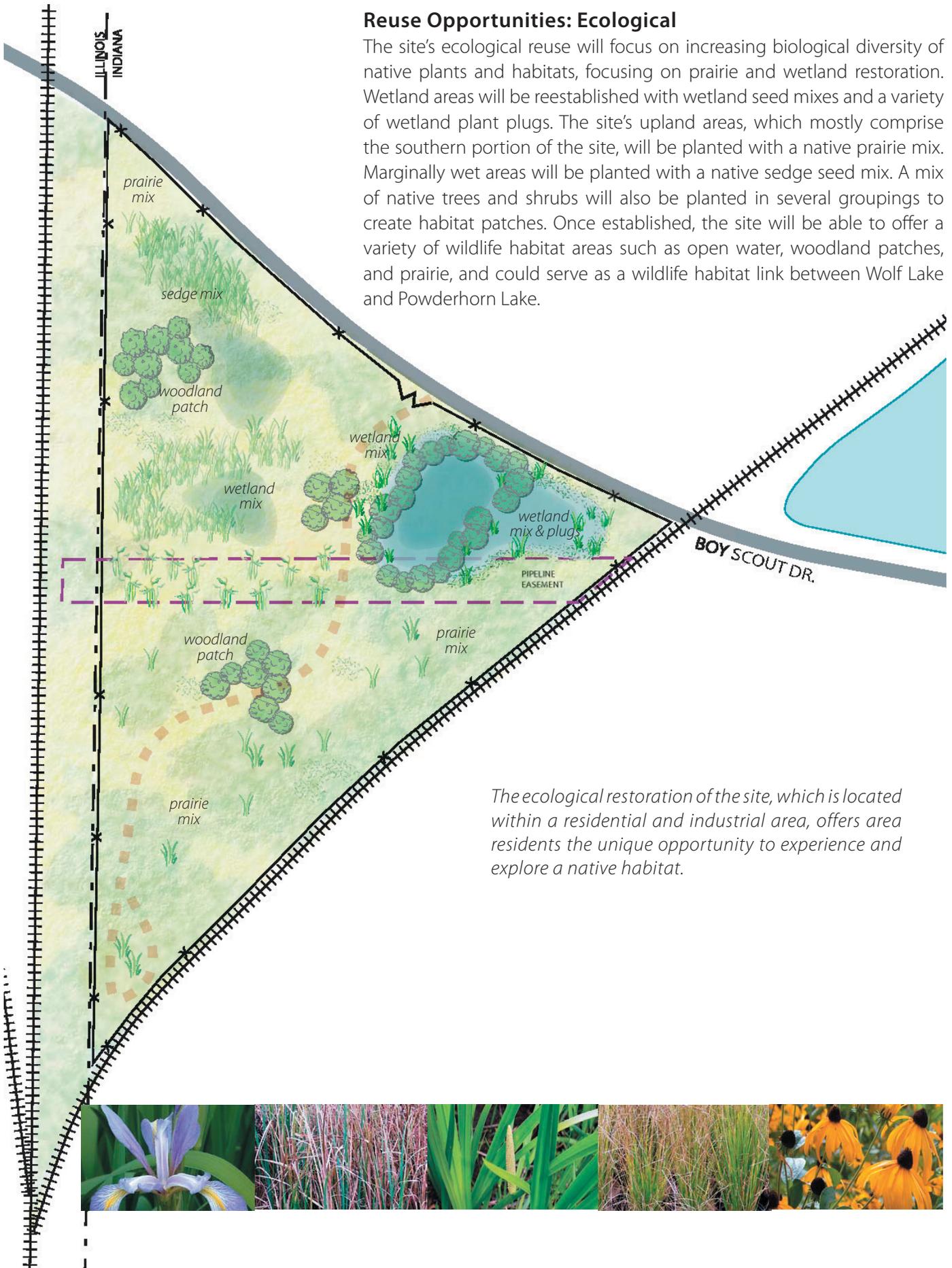
The Calumet Container Superfund site, located between Wolf Lake and Powderhorn Lake, features dry prairie, wet prairie, and wetlands. Ecological restoration and wetland mitigation were important goals of the site's remediation. As a result, native plants were selected to ensure the site's restoration to a small range of habitats native to northwest Indiana.

Once complete, this former contaminated area will be restored as a native habitat area and could provide a recreational resource for the community. Potential recreational opportunities includes trails and open space. The site's trails could also connect with other local and regional recreational areas and trail networks.



Reuse Opportunities: Ecological

The site's ecological reuse will focus on increasing biological diversity of native plants and habitats, focusing on prairie and wetland restoration. Wetland areas will be reestablished with wetland seed mixes and a variety of wetland plant plugs. The site's upland areas, which mostly comprise the southern portion of the site, will be planted with a native prairie mix. Marginally wet areas will be planted with a native sedge seed mix. A mix of native trees and shrubs will also be planted in several groupings to create habitat patches. Once established, the site will be able to offer a variety of wildlife habitat areas such as open water, woodland patches, and prairie, and could serve as a wildlife habitat link between Wolf Lake and Powderhorn Lake.



The ecological restoration of the site, which is located within a residential and industrial area, offers area residents the unique opportunity to experience and explore a native habitat.



Above: The pond in the northeast corner of site prior to restoration and reestablishment of native wetland plants. Trees around the perimeter were preserved and protected during the site's remediation, and the pond was enlarged.



Left: An example of a restored wetland.



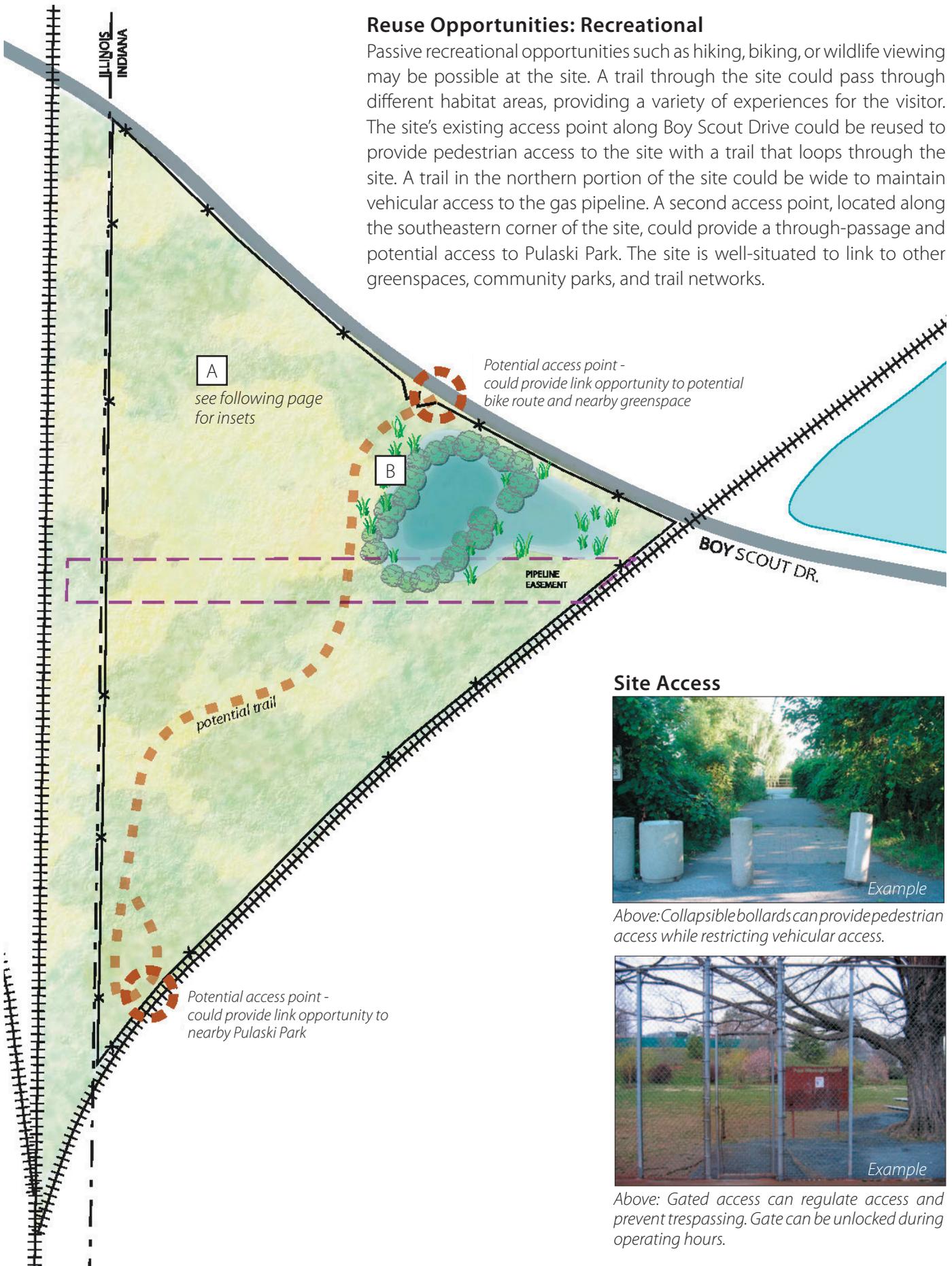
Above: The southern portion of the site prior to being reestablished with native prairie plants and small woodland patches.



Above: Example of native prairie plants and shrub/woodland mix in the background.

Reuse Opportunities: Recreational

Passive recreational opportunities such as hiking, biking, or wildlife viewing may be possible at the site. A trail through the site could pass through different habitat areas, providing a variety of experiences for the visitor. The site's existing access point along Boy Scout Drive could be reused to provide pedestrian access to the site with a trail that loops through the site. A trail in the northern portion of the site could be wide to maintain vehicular access to the gas pipeline. A second access point, located along the southeastern corner of the site, could provide a through-passage and potential access to Pulaski Park. The site is well-situated to link to other greenspaces, community parks, and trail networks.



Site Access



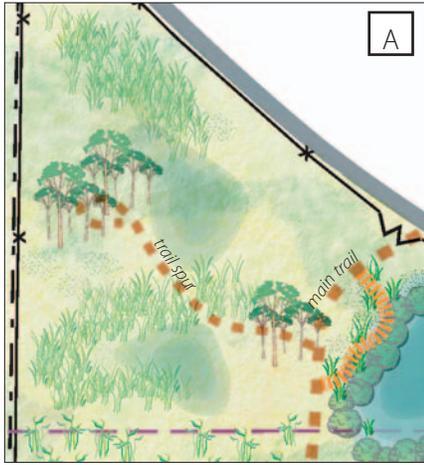
Example
Above: Collapsible bollards can provide pedestrian access while restricting vehicular access.



Example
Above: Gated access can regulate access and prevent trespassing. Gate can be unlocked during operating hours.

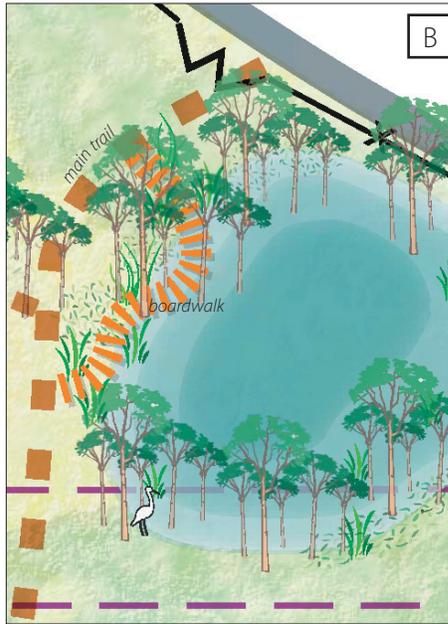
Trail Opportunities

Additional trails originating from the main trail may enhance visitors' overall experience at the site.



Trail Spurs

A trail spur through the northwest corner of the site could weave through wetland, sedge, and prairie habitat areas.



Wetland Boardwalk

A boardwalk or platform in the pond and wetland marsh area could provide visitors with an opportunity to experience these areas without impacting the ecosystem.



Example



Example

Trail Surfaces

Trail surfaces can range from paved, gravel, mulch, or bare earth.

Paved trails -

can accommodate a wide range of users from hikers to bicyclists.



Example



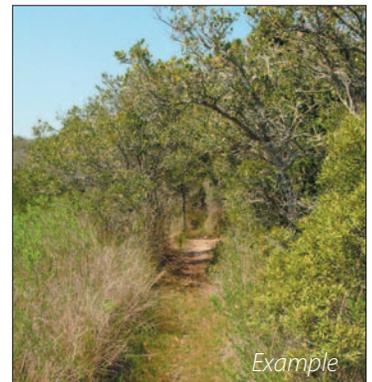
Example

Gravel or earthen trails -

can provide a cost effective, rustic trail experience.



Example



Example



Educational Opportunities:

The site could offer a variety of environmental educational opportunities for school-aged groups, community residents, or tourists to the area that could complement other environmental education programs in the area. Interpretive signage, informative maps keyed to site features, or informational brochures could be used.



Once the site's restoration is complete, several different plant communities and habitat areas will be established. Learning stations could be created along the trail and signage could describe the plant communities – key plant species, associated wildlife, and their interlinked role or connection with other plant communities.

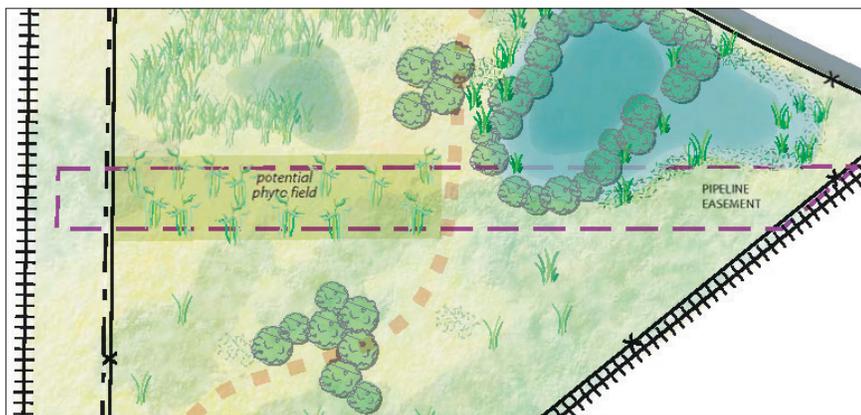


Signage and other interpretive devices could also demonstrate the process that has transformed the site from a contaminated area into a native ecosystem and wildlife habitat area.

Other education opportunities include depicting the role that plants play in restoration and the importance and function of wetlands.

Outreach Opportunities:

The site's restoration and reestablishment of vegetation will likely occur over an extended period of time, during which time monitoring and evaluation may be necessary. Outreach programs with local universities may provide hands-on learning experience while assisting the community with the monitoring of plant health and the restoration of the site.



Above: A potential phytoremediation field along the pipeline easement can offer area universities a hands-on learning experience in an outdoor laboratory setting.



Above: College students studying a native plant community.

Key Considerations:

Site ownership:

Public ownership of entire site – A majority of the site is owned by Lake County. However, the pipeline easement area remains privately owned. This private parcel runs through the middle of the site, dividing the areas owned by Lake County. Without this piece of property, the site's contiguous reuse may not be possible. Lake County may initiate efforts to acquire this final parcel and enable the site's connected reuse. Since the parcel is part of a larger tract owned by an adjacent landowner, it may be possible to subdivide the parcel; Lake County may acquire the portion of property that falls within the site's boundary.

Long-term ownership – The site is located within the City of Hammond. Lake County may be interested in transferring the site to the city. The City of Hammond and Lake County may need to discuss long-term ownership of the site and the details of any transfer. Currently, the City of Hammond has been a major participant along with Lake County during stakeholder involvement activities.

EPA role and responsibilities - EPA does not have any local land-use decision making authority, but can work with the community in several ways to ensure that the site's reuse is compatible with the site's remedy. Moving forward, EPA can assist by offering information on liability status for the end owner of the site.

Land use considerations:

Rezoning – The site is currently zoned I-2: Manufacturing. However according to future regional plans, this area falls under conservation, ecological, and recreational use. The site may be rezoned S-1: Institutional and Open Space.

Easement – A pipeline easement crosses the middle of the site and may have special requirements that may need to be incorporated into reuse plans. For example, the pipeline easement will need to be accessible by the pipeline company and trees planted near the easement should be spaced to avoid canopy overhang. Trail design and surface selection might also need to be coordinated with the pipeline company as the trail crosses the easement and hard surfaces may not be permitted.

Community involvement:

The City of Hammond and Lake County can continue to work with the community as the site's framework is developed and implemented. The City of Hammond may provide the community with regular information updates and additional opportunities for community members to come together to discuss ongoing plans for the site's reuse.

Several community organizations and local universities have expressed interest in participating in the site's restoration. If properly coordinated, volunteer organizations and local citizens can foster community interest in the site and help with management and maintenance activities. The City of Hammond or Lake County could establish a local site contact to assist in organizing volunteer assistance efforts at the site. For example, the City or County may be able to enlist the help of the Pulaski Park Neighborhood Association to help monitor the site and report trespassing or illegal dumping. In addition, a professor at Purdue University has expressed interest and willingness in bringing classes to the site to help with planting and monitoring. As technical advisor for the site, the Wildlife Habitat Council may also be willing to play a role and provide technical expertise. The Association for the Wolf Lake Initiative has also expressed interest in helping with the site's restoration. It is important that any observations or data collected from site activities also be shared with the City of Hammond or Lake County so that localities can make informed site-related decisions.

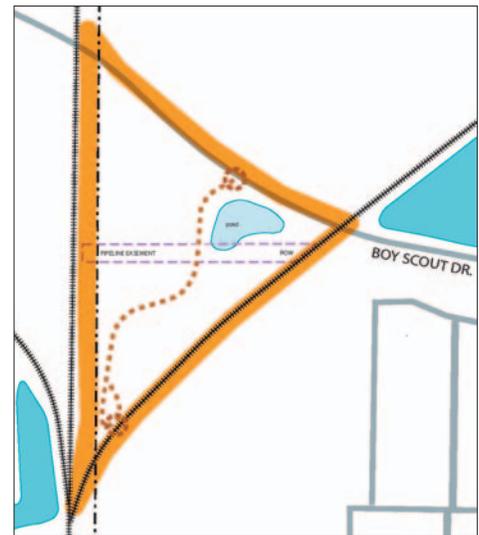
Key Considerations:

Site maintenance:

Maintenance plan – Site maintenance is necessary to prevent invasive species from overtaking the site during the early stages of plant development and to keep invasive species to a minimum over the long-term. For the first few years following seeding, eradication and control of invasive species will be essential in order to establish a good stand of native species.

Following seeding, the site will need to be routinely inspected and invasive species removed (preferably with herbicide treatment). Areas will also need to be monitored to ensure that seed mixes have germinated and plant diversity has been established. Local stakeholders along with the City of Hammond and Lake County could develop a shared maintenance plan and responsibilities prior to the EPA’s completion of their site restoration activities. A sample maintenance plan is described below as an example to facilitate these discussions.

Protection zone – The site is surrounded by *Phragmites australis* or common reed – a highly invasive species that could easily overtake the site. Establishing a protection zone, shown in orange on the map to the right, around the site’s perimeter by controlling phragmites would greatly improve the establishment and survival of the site’s newly seeded areas. Within the protection zone, cutting phragmites back before seeds germinate or treating plants with an herbicide could reduce their dispersal into the site. Local stakeholders along with the City of Hammond could explore the feasibility of establishing and maintaining a protection zone around the site’s perimeter along railroad and road right-of-ways.



Proposed Protection Zone

Short-term maintenance – EPA has plans to monitor and maintain the site via a local contractor for six months after seeding the area to ensure seedling establishment and the eradication of invasive species on site. Short-term maintenance will include visual site inspections, herbicidal treatment of invasive species, mowing, and reseeded areas that fail to germinate. The responsibilities for continued maintenance may then be transferred to local stakeholders including the City of Hammond or Lake County, at the end of the six months.

Long-term maintenance – The City of Hammond or Lake County will need to determine local responsibilities for maintaining the site in the future. Responsibilities will include regular site monitoring and visual inspection of plant establishment, herbicidal treatment of invasive species, and possible mowings. This maintenance regime may be extended out with EPA’s contractor or may be transferred to an in-house department. It is likely that site maintenance during the first few years will be the most intensive to prevent invasive species or aggressive native species from spreading. Routine monitoring and treatment of invasive species would likely need to be carried out for at least three years. Once native plants are established, maintenance will likely not need to be as intensive. The maintenance of the proposed protection zone around the site will also further ensure the establishment of native plants on-site.

Key Next Steps:

Building on the considerations outlined in this document, there are three key next steps that will need to be taken to ensure the successful reuse of the Calumet Container Superfund site. Lake County and the City of Hammond will need to work together and with EPA and IDEM to clarify and define their respective interests and responsibilities, addressing site ownership, long-term site maintenance and stewardship, and community involvement.

1) Lake County and the City of Hammond need to determine which entity will own the Calumet Container site in the future.

Once the site's future ownership is determined, the site's pipeline easement area will need to be acquired and consolidated with the remaining portions of the site, which are currently owned by Lake County. The locality that owns the site in the future will need to explore different acquisition options for the pipeline easement area. Without the inclusion of the pipeline easement area, the future use of the site as planned will not be possible.

2) Lake County, the City of Hammond, and EPA will need to work together to determine each entity's responsibilities for the site's long-term maintenance and stewardship.

Maintenance and stewardship responsibilities will include regular visual site inspections, herbicidal treatment of invasive species, reseeding areas that fail to germinate, and possibly seasonal mowing and watering tree planted areas. Page 10 of the report provides a sample maintenance plan with both short- and long-term components as well as a protection zone to address invasive species.

3) Moving forward, Lake County and the City of Hammond will need to establish a community outreach and involvement strategy for working with community residents, organizations, and local universities.

To date, there has been significant community interest in the remediation and planned future use of the Calumet Container Superfund site. Strategy components could include the designated involvement of city or county staff, the development of a communications strategy, the creation of partnerships, and the development of a regular community meeting and/or information update schedule.

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