

# LA CROSSE COUNTY LANDFILL MASTER LAND USE PLAN



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# EXISTING CONDITIONS REPORT

## 1. CHAPTER OVERVIEW

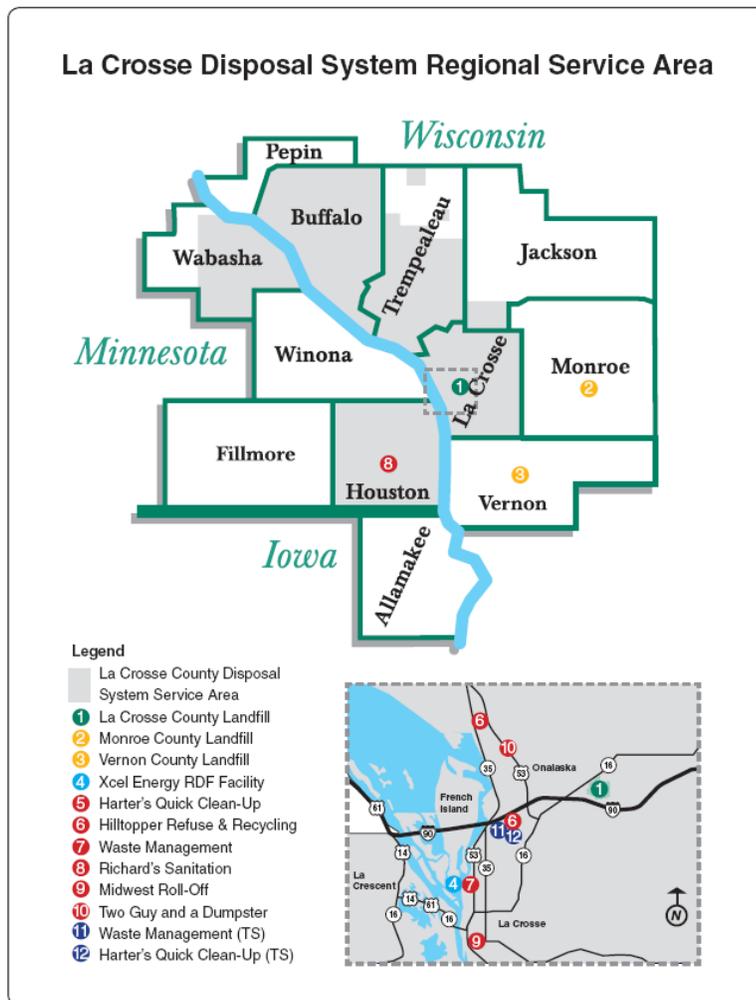
This chapter is intended to give an overview of The La Crosse County Landfill, help describe the setting and provide the general context for future Land Use planning at this site. Due to very recent efforts by the Solid Waste Department and their current consultant, Foth; there is significant data regarding existing conditions in the Solid Waste Plan of Operations adopted in 2005. The data in this chapter is supplemental to that existing data.

### Chapter Contents

1. Chapter Overview
2. Regional Context
3. Units of Government
4. Solid Waste Projections
5. Land Use and Development Trends
6. Solid Waste Infrastructure
7. Site Features

## 2. REGIONAL CONTEXT

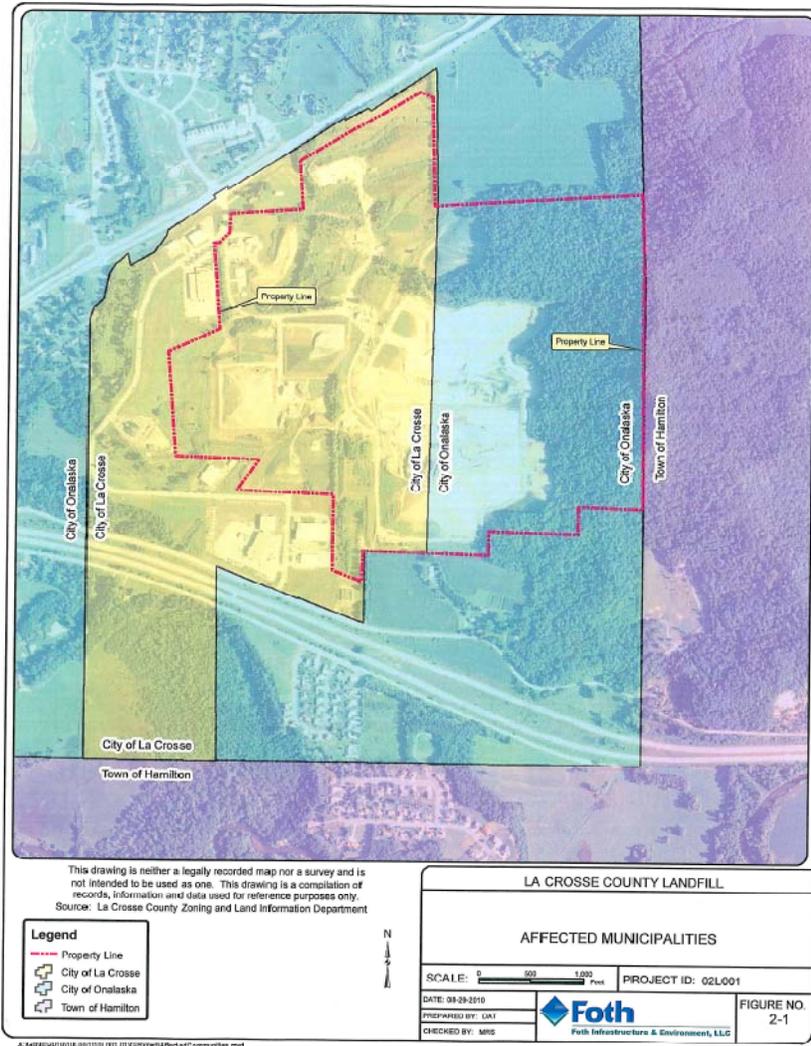
The solid waste facility is located in west central La Crosse County, Wisconsin. The City of Onalaska and Towns of Onalaska and Medary border it to the north, and west, The City of La Crosse to the west, and south, and the Town of Hamilton to the east.



3. **UNITS OF GOVERNMENT** WITHIN THE SOLID WASTE FACILITY SERVICE AREA, THERE ARE 12 TOWNS, 2 CITIES, AND 4 VILLAGES (MAP 1 AND TABLE 2-1).

Table 2-1. Civil Divisions

Town	City	Village
Bangor	La Crosse	Bangor
Hamilton	Onalaska	Holmen
Barre		Rockland
Holland		West
Burns		Salem
Medary		
Campbell		
Onalaska		
Farmington		
Shelby		
Greenfield		
Washington		



4. **SOLID WASTE PROJECTIONS** CURRENTLY 30 YEARS OF CAPACITY

Table 3-11 Summary of Phase Quantities

Phase	Airspace (cy)	Estimated Phase Life (yrs) 2
Phase 1	830,000	0.83
Phase 2 - Filling Sequence 1	303,000	1.9
Phase 2 - Filling Sequence 2	513,000	3.3
Phase 3 - Filling Sequence 1	1,082,000	6.9
Phase 3 - Filling Sequence 2	965,000	6.1
Totals 3,	3,693,000	19.05

1Includes approx. 706,000 cy of airspace to be used for Waste Relocation Sequence 3

2Phase life based on an annual airspace utilization of 157,800 cy (from Feasibility Report)

3Does not include airspace intended for Waste Relocation Sequence 3

4 Does not include a portion of the vertical expansion filled prior to Phase 1 construction Total created airspace for the Contiguous Expansion is 3,853,000 cy

5 Includes remaining airspace from the Active Landfill

There is additional property available at the Landfill Complex for airspace additions in the future. Projecting landfill life is subject to many variables such as future waste delivery quantities, future processing, service area size, future land use practices in the area, and the compatibility of the landfill with the area. With continued use of the Xcel facility or some similar solid waste processing facility, the landfill life will last well over 50 years and then a different, but necessary land use for 50 years beyond that first 50. This nearly 100 Years of commitment must be appropriately planned to benefit its citizen. Future concerns, land use conflicts, or lack of waste processing could reduce the projected landfill life. Ultimately, the site is limited to the currently owned property. While operating the landfill for the next 30 years, and planned expansion of an additional landfill cell adds landfill life of 20 years, and a required 40 years of long-term care; and it's clear that the County vision must look nearly 100 years into the future. During this same period, it is likely that urban growth and industrial development adjacent to the landfill property will consume surrounding land. Because of this very real likelihood, planning now must be visionary to re-couple ecosystems and to assure the protection, restoration and maintenance of the land for habitat and recreational uses both within and adjacent to the landfill. Making this commitment now is the only way to ensure these lands remain accessible and become part of the fabric of the community as time goes on.

## 5. LAND USE AND DEVELOPMENT TRENDS

**Land Use Supply:** The supply of land to support development is based on several factors including physical suitability, land use regulations, and community goals. Intergovernmental agreements and annexations also become considerations when looking at the land supply at the community level. At the County level, land physically suited for development exists throughout. A conservative estimate, based on a study performed by the University of Wisconsin-La Crosse, indicates there are nearly 190,000 acres that could be physically suited for development. The policies developed in this Plan and subsequent community plans will help guide how growth is managed in these areas.

### **Land Use Demand:**

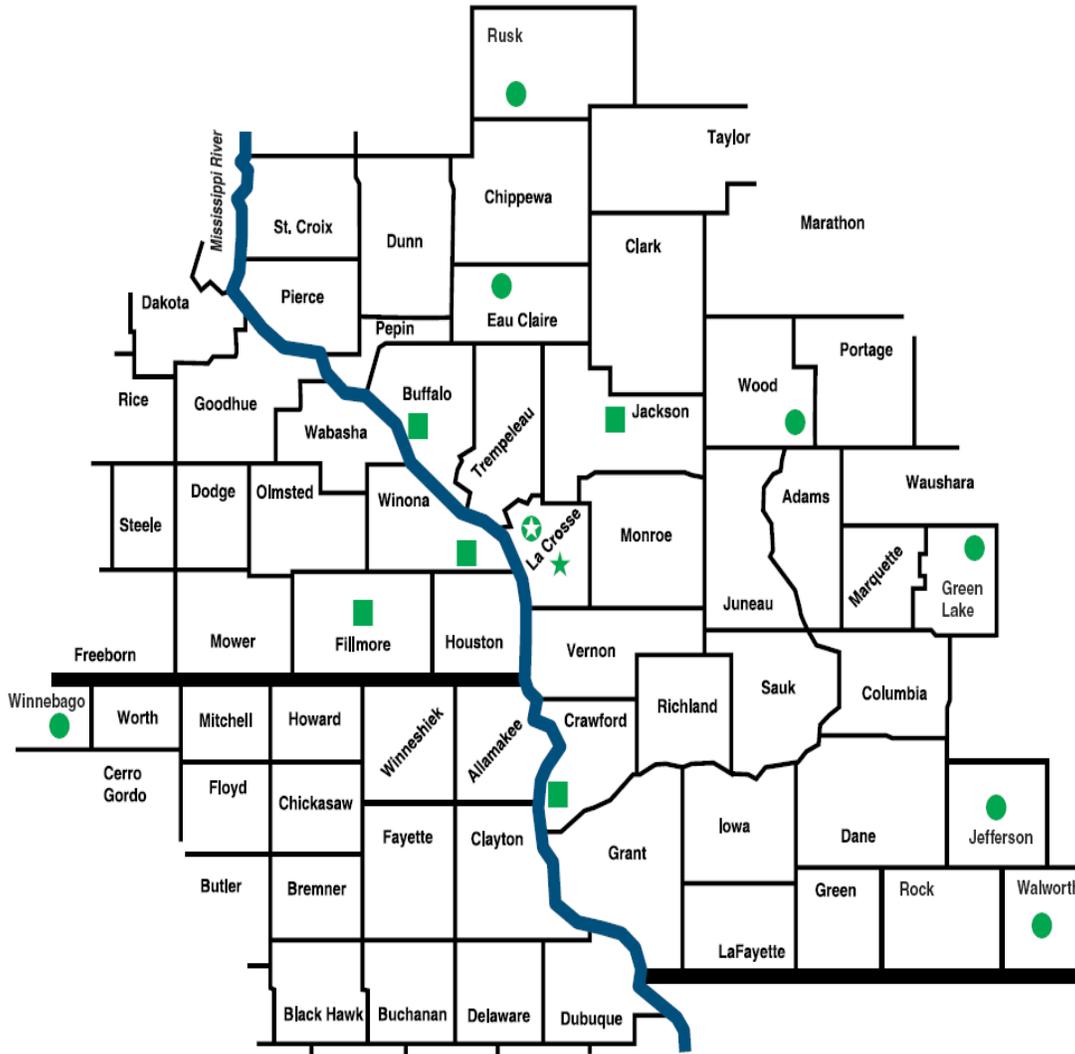
A. As development pressures increase, the demand for developable land also rises. An analysis of building trends in the 1990s indicates that approximately 3% of the County's farmland was converted out of an agricultural use between 1990 and 1997. Not surprisingly, this conversion factor was higher for Towns on the western side of the County. Towns surrounding Holmen, Onalaska, and La Crosse had close to 8% of their agricultural acreage converted to other uses.

B. Based on growth and housing projections provided by the State's Demographic Service Center, the County may need to accommodate nearly 5,000 acres of new residential, commercial, and industrial land along with additional acreage needed for infrastructure, parks, community facilities and similar uses.

**Land Surrounding the Landfill Complex:** This land has developed densely within the past 10 - 15 years, due to annexation, and significant public infrastructure improvements including sanitary sewer extensions, water and storm sewer improvements, and roads. The value and development pressure have significantly increased in this area of La Crosse County. There are additional investments that need to be made in public infrastructure projects, to continue this trend, including water reservoirs, booster stations and lift stations for sanitary sewer. However, the value and

pressure to develop this land into a more efficient, dense and compact nature will continue to drive the property values of these adjacent properties up and make the expenditure for additional public infrastructure feasible.

## 6. SOLID WASTE INFRASTRUCTURE



- Private Landfill
- Transfer Station
- ★ XCEL WTE Facility
- ★ La Crosse Landfill

## 7. SITE FEATURES

- The land is stunningly beautiful and has extraordinary character associated with its diversity - from the high quality forests on the ridge tops, primarily dominated by native plant communities, to the vistas over the larger landscape from the site and from nearby roads.
- The property is a conservation and open space *hub*, and will increase in conservation value as it is closed and reclaimed. We also see it as a *connector* that, once restored, could become a vital link in the County's open space preservation and park and recreation programs. By "hub", we mean the property could very well serve as a large conservation center from which radiating "spokes" link the forested ridge tops, roadways with restored native landscapes, the La Crosse River corridor, and perhaps restored open spaces and habitats in adjacent private properties such as the proposed International business park and/or the agricultural lands along the northeast property line. By linking conservation areas, the property has potential to significantly increase in conservation and recreational values.
- Whether it is viewed as hub or connector, the property can certainly be viewed as a conservation *seed*, able to inspire and leverage the growth of relationships with adjacent private properties, corporate lands and other public lands, thus increasing the publicly available open space and protected conservation areas in La Crosse County.
- We acknowledge that landfills have an unfortunate stigma as nearly worthless "dumps" in the U.S., but this is not the case in most other countries where the open space become vital to the parks and recreation systems. In many areas, closed, restored landfills are providing some of the most valuable wildlife habitat within urban areas and even in agricultural landscapes. The value of such properties for these purposes has dramatically increased in recent years as such vital habitats decline due to increasing urbanization and land development. For this reason, the La Crosse landfill should be considered a valued future public trust investment. It should be guarded to ensure it is not bartered or sold for development without significant recompense. We believe that any adjacent proposed development that might consider asking the city for some of the land should come in with overcompensating offers to provide comparable land of high aesthetic values, adjacency and connectivity with other public conservation areas and passive recreation lands. We have seen in other areas of the country that, without careful and visionary foresight, deals can be cut and future long-term public recreation and conservation values can be easily traded away without fair compensation. Fair compensation for long-term value is not the equivalent of trading land for jobs or an increased tax base.

## PLANNING PROCESS

### PUBLIC PARTICIPATION ACTIVITIES:

1. PUBLIC INFORMATIONAL MEETINGS, CUSTOMER APPRECIATION DAYS
2. INTERNET SITE WITH COMMENTS SECTION
3. FEEDBACK FORM AVAILABLE TO THE PUBLIC AND TO CLIENTS
4. SOLID WASTE POLICY BOARD MEETINGS
5. STAKEHOLDER INTERVIEWS
6. ANNUAL DISPOSAL SYSTEM MEETINGS
7. SOLID WASTE NEWSLETTER

### RESULTS OF PUBLIC PARTICIPATION ACTIVITIES:

1. "WALKING TRAILS ARE IMPORTANT ON THIS SITE"
2. "AESTHETICS, BOTH ON-SITE AND OFF-SITE VIEWSHEDS ARE IMPORTANT"
3. "TRAFFIC SAFETY ESPECIALLY AT THE NORTH ENTRANCE, BERLIN DRIVE."
4. "STORM WATER MANAGEMENT IS IMPORTANT, MAJOR DRAINAGE AREAS, IDENTIFICATION OF WETLANDS, AND BEST MANAGEMENT PRACTICES."
5. "MANY COMMENTED THAT THEY WEREN'T AWARE THAT THIS SITE WAS A LANDFILL, OR THAT IT WAS THIS LARGE."
6. "CURRENTLY AN ATTRACTIVE PROPERTY AND SHOULD REMAIN AS OPEN SPACE"

## LAND USE PLAN GOALS AND OBJECTIVES

1. THIS SITE IS OVER 350 ACRES OF VALUABLE LAND. TO PLAN FOR SITE UTILIZATION, AND CONSERVATION. TO PROVIDE SERVICES TO THE PUBLIC AND PROTECT THE NATURAL RESOURCES BOTH DURING OPERATIONS AND AFTER CLOSURE.
2. TO DEVELOP THE FOUNDATION OF APPROPRIATE RECREATION BOTH DURING OPERATIONS AND AFTER LANDFILL CLOSURE.
3. PRESERVE A BUFFER FROM ADJACENT RAPID DEVELOPMENT PATTERNS AND TO PROVIDE MUCH NEEDED OPEN SPACE IN A RAPIDLY DEVELOPING AREA.
4. RECOGNIZE THE UNIQUE NATURE OF THE SITE AND ITS SIGNIFICANT TRANSITIONS FROM PRAIRIE TO FOREST, MEADOW TO BLUFF.

5. UTILIZE THIS PLANNING PROCESS TO ASSIST POLICY MAKERS IN SUPPORTING COLLABORATIVE DECISION MAKING ALIGNED WITH ADJACENT MUNICIPAL AND COUNTY-WIDE PLANNING EFFORTS.
6. CONTINUE TO INVOLVE THE PUBLIC IN LAND USE DECISIONS.
7. WORK WITH STAKEHOLDERS, ESPECIALLY ADJACENT LANDOWNERS ON COLLABORATIVE LAND USE PROJECTS.
8. MINIMIZE THE COST IMPACT BY EMPHASIZING TIMELY USE OF THE SITE. PROMOTE PHASING OF ACTIVITIES. UTILIZE THE LARGE TIME HORIZON OF THE OPERATIONS OF THE SITE TO ESTABLISH PRESENT AND FUTURE ACTIVITIES.
9. CREATE A BASE MAP FOR THE LANDFILL AND POTENTIALLY ADJACENT PROPERTIES
  - A. MAP THE ECOLOGICAL RESOURCES
  - B. MAP ADJACENT LAND USES AND COMPATIBILITIES, NECESSARY BUFFERS.
  - C. MAP THE SERVICE DELIVERY NEEDS AND FUTURE SPATIAL NEEDS.

## SITE VISION

- SHORT TERM - CURRENT PROJECTS 0-5 YRS
  - METHANE COLLECTION AND UTILIZATION
  - STORAGE FACILITY
  - COMPLETE THE MASTER PLAN
- MEDIUM TERM - LIFE OF THE LANDFILL 5-30YRS
  - INVESTIGATE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY AND THE REDESIGN OF THE ENTRANCE, SCALE, AND PUBLIC DROP OFF AREA
  - ECONOMIC DEVELOPMENT ADJACENT TO SITE
  - INCREASE CAPACITY AT ASH MONOFILL
  - INCREASE CAPACITY IN SOLID WASTE LANDFILL
  - BEGIN DESIGN AND CONSTRUCTION OF RECREATIONAL ACTIVITIES
- LONG TERM - LANDFILL CLOSED 30-90 YRS
  - FINALIZE DESIGN AND INSTALLATION OF CLOSED LANDFILL LAND USE
  - FIND ALTERNATIVE LOCATION FOR SOLID WASTE FACILITY

## HABITAT AND ECOSYSTEM DEVELOPMENT

**Start Today, Build Upon Strengths** Planning for habitat restoration can begin quickly, progressively and sequentially. Building upon the strengths of the site, restoration can start at the perimeter of the property and move inward on land that is not planned for expansion of cells. Eventually restoration can progress through each closed cell until the whole area is restored. Reasonably good quality natural areas such as the forested slopes and ridges, drainage ways and open, grassed lands can be converted to native prairie, savanna, forests, and wetland ecosystem types that represent an example of the strengths of the site. These areas, largely occurring around the north, northeast and west perimeters of the site, can easily be restored to improved ecological health. And they can be opened promptly for public passive recreational uses such as hiking and bird watching. Along the south border is a closed area that contains berms of stockpiled topsoil and other materials. The removal of these stockpiles (and perhaps their sale which could generate revenues to support conservation initiatives and restoration closure strategies), would result in a larger area of the perimeter being available for restoration to colorful native prairie wildflowers and grasslands. Since this area is adjacent to the International Business Park and future development zones to the south and northeast, this restoration would serve as an example of natural landscaping that can be emulated in these off-site areas. This would be the first perimeter ring, and coincidentally, this would also be the public face on the project. Working inward, the second ring where restoration could occur could be areas with stockpiles of topsoil, subsoils and sand. These stockpiles could be consolidated into singular areas on the top of several landfill cells to surcharge the cells and create more airspace and landfill cell life. These stockpiles could also be used to create sculpted landforms designed to emulate in character the shapes of the mounds and ridge tops so that the final form of the closed landfill fits the aesthetic character of the Natural landforms. A third ring can be the final closure of areas with long term monitoring wells, operating landfill cells, access roads and facility buildings and other infrastructure (e.g. gas flares, recycling center, composting operation, household hazardous materials facility, etc.). Once these are restored, with the exception of some strategic access control (e.g., monitoring wells, flare locations, leachate collection wells, etc.) the site can become available for public access, passive nature appreciation and recreation. Some areas can become more formalized for an educational center or nature center, and for active recreational uses.

**Creating Off-Site "Greenfingers"** Simultaneously, as you continue the inward progression of restoration and conservation toward the center of the landfill property, you can also work outward with neighbors to create "greenfingers" that extend the conservation lands outward crossing the landscape through abutting parcels. Partnering with adjacent private landowners could help them protect and restore abutting back lots and even small swatches of existing open space (such as rights of ways, drainage-ways, stormwater management areas, utility easements, etc.). A variety of incentives have been developed for this kind of activity, including tax incentives, development density bonuses and a range of private/public partnerships, for example. The landfill could also work with its neighbors to deploy alternative stormwater management designs (e.g., creating habitat restorations such as wetlands instead of expensive stormwater detention basins), and perhaps by creating their stormwater management needs on landfill property in exchange for tradeoffs of more open green space in their developments. These ideas would represent but a few of the creative ways the valuable landfill property can be leveraged to expand the net conservation acreage over time. Greenfingers can radiate like spokes from the hub of a bicycle wheel, with the La Crosse landfill as the conservation hub that could inspire neighbors to participate in a conservation vision for the land.

**A New Educational Nature Center?**

Once closed, landfills are increasingly becoming important regional nature centers and outdoor educational facilities. In this location, the story of the history of the community lies beneath the ground in the landfill wastes. The story of the landfill operation, closure, restoration and beneficial reuse - the stories of how nature comes back - could be told within the walls of a new Nature Center. These are invigorating stories that the community will appreciate and celebrate. If such a facility has a modern conferencing center, it can become a profit center available for lease. The miles of trails for passive wildlife viewing, walking, jogging or biking can make such settings highly esteemed destinations. One project we have been involved with has established a nature center, bird banding station, and a raptor and wildlife rehabilitation center in association with a landfill closure. As a result the landfill is now a community center of culture, particularly conservation and science and is inspiring a new generation of connections between young persons and wildlife, through learning hands-on about conservation. One of our projects has a new Audubon nature center adjacent to the landfill. This unique partnership also includes a greenhouse (heated by landfill gas and electrified by landfill gas powered turbine) where fish and hydroponic vegetables are produced and sold for public food.

### **Next Steps - Moving Forward**

**These tasks would typically be conducted in Year 1 of this long-term process:**

1. Conduct a natural resource inventory
2. Prepare a closure and restoration plan with a conservation vision and linked recreational plan, with a phased timetable
3. Involve the public in hands-on design of the park and conservation outcomes.
4. Prepare budgets
5. Conduct fundraising and public education activities
6. Create relationships with neighbors to expand the *Greenfingers* concept and conservation outcomes.
7. Create several public conservation design planning sessions about *Greenfingers* and linkages.
8. Create an overall park master plan linked to the conservation vision for the land.

**The following tasks are typically conducted in Years 2-10:**

1. Create a strategic plan for partnering and fundraising to support inducement and incentives.
2. Design and implement demonstration projects with neighbors such as native plantings in idle space in adjacent business parks.
3. Design and implement shared stormwater infrastructure and conservation development designs with willing adjacent landowners to demonstrate cost savings of conservation development and to facilitate partnering around such items as shared stormwater management areas.
4. Begin and complete the cleanup and restoration of the outer perimeter lands.
5. Begin cleanup and restoration of the next inside perimeter ring.
6. Establish an on-site tree nursery for producing stock for plantings, including locals to collect local native tree seeds for propagation through a partnership with local native plant nurseries.
7. Stake-out and provide on-site signage for future improvements such as trails, gathering locations, observation points, etc., to insure best placement and future implementation.
8. Create and disseminate communication collateral to inform media, community leaders and the public of the ongoing site efforts.
9. Establish a right-sized fund reserve dedicated to implementing the vision.

**The following tasks are typically undertaken in Years 10-30:**

1. Continually promote the landfill ecological restoration by establishing a program or event, and/or coordinating with an existing program or event, for the purpose of communicating the restoration vision for the landfill property.
2. Every 10 years revisit the vision to re-align implementation with the established vision.
3. Ensure a dedicated reserve fund is sufficient to carry out maintenance and capital projects.
4. Revisit opportunities to include ecological restoration of the cap with restored buffer areas.

### **Miscellaneous Ideas to Consider**

1. Restore landscapes for beauty, stormwater management benefits and wildlife habitat  
Many areas in and around the landfill are currently infested with invasive weedy plants that present a significant need for high-cost maintenance. Large areas of parsnips, stinging nettles, European brome grass and Tartarian honeysuckle could all be converted to native grassland, wetland, savanna and forests, as could fencerows with garlic mustard and fencerows with deteriorating planted pine stands. Once restored, the maintenance needs would be minimized and costs would be reduced.
2. Disperse the management of stormwater in many small, scattered wetlands rather than large detention ponds in nature, stormwater is "managed" (infiltrated and/or stored) close to where precipitation hits the ground. In contrast, man's tendency is to concentrate it in pipes and ditches, and store it in steep-sloped, often unstable detention ponds which adds cost and creates risks and safety issues. We should strive to design stormwater management systems to emulate smaller, decentralized restored landscape features that can serve as wildlife habitat and park features.
3. Re-contour the landscape to create stable, natural looking grades frequently in earth-moving projects; stockpiles and berms have blocky angular looking features rather than the beauty and natural flow and form of the land found in a natural landscape. In conducting the final closure, we should work toward creating the gentle, stable landforms found in nature.
4. On the re-contoured final surface of the landfill, create defined drainage-way features that add to the aesthetic charm of the landforms. Most landfills have engineered drainage features that don't make the land easily reusable or aesthetically appreciated when re-purposed for parks and habitat features. We could consider re-grading natural forms for drainage features over the landform slopes and plant these with pattern-distinguishing native trees and shrubs such as American hazelnut and bur oak that would typically be found growing on hills in the protection of the draws and drainage ways.
5. Create secluded and quiet places with landforms and, these could be planted to augment the calm and peace one feels (and that wildlife experience) in such settings.
6. Create safe overlooks, promontories and observation areas on ridge tops, linked with trails and walking paths. The promontories are important, spell-binding locations and should be intentionally integrated for the future.
7. Restore bedrock features and dry prairies in sand overburden materials. The closure has the opportunity to include some very unique habitat types including dry prairie and bedrock prairie plantings. These habitats are increasingly rare habitat types that can be easily restored on this landfill upon closure.
8. Restore tree cover for forest and savanna restoration by direct seeding rather than planting individual trees Direct seeding creates thickets of dense woody vegetation that deters browsing deer and their damaging effects. This approach is far less expensive than planting thousands of trees and having to protect each in tree tubes. It also ensures the quick development of dense masses of trees.
9. "Re-grow" healthy soils on the site by constructing a soil mixing and creation staging area. The landfill has a range of materials that are not being handled as efficiently as they could if an end-use and streamlining process for fabrication (chipping, mixing, etc) could be made available. A full range of organic materials can be staged adjacent to each other, and appropriate mixes can be

blended and used for re-building soils on the final landforms of the landfill during closure and restoration. Doing this will beneficially reuse some materials that would otherwise take up airspace, and it also greatly increases the success of re-vegetation on the final landforms.

10. Design the site for public access in the near future and sequentially open newly restored areas. Public acceptance of, and support for, the conservation design of the landfill property is best achieved by giving the public access to some strategic areas early on in time. The value of this outcome cannot be overstated and it should not be underappreciated.

## ALTERNATIVE CONCEPTS

### COMMON CAPPED LANDFILL USES:

DOG PARK, WALKING TRAILS,  
NATURE RESERVE....

SOME LAND POSSIBLY USED BY  
INDUSTRIAL PARK NEAR BY

NATURE AND HABITAT AREA

HIKING TRAILS

PARK AND SPORTS FIELDS

GOLF DRIVING RANGES

GOLF COURSE

COMMERCIAL  
DEVELOPMENT/INDUSTRIAL PARKS

SCULPTURE OR BOTANICAL GARDEN

SLEDDING SLOPES

PUBLIC WORKS OR OTHER MUNICIPAL  
FACILITIES

AMPHITHEATER/STADIUM

CEMETERY

RECYCLING CENTER

SOLAR FARM

NATURAL WILDLIFE HABITAT

GOLF COURSE

KAYAK RODEO PARK

GOLF COURSE OR A BMX TRACK

WALKING TRAIL AROUND NATURAL  
LANDSCAPE

CONVERT INTO GREEN AND WOOD  
WASTE FACILITY



## IMPLEMENTATION

1. **Plan Adoption - Solid Waste Policy Board, Public Works and Infrastructure Committee.**
2. La Crosse County will base its land use decisions against this plan's goals, objectives, policies, and recommendations including decisions on private development proposals, public investments, regulations, incentives, and other actions.
3. La Crosse County can expect gradual change in the years to come. Although this Plan has described policies and actions for future implementation, it is impossible to predict the exact future condition. As such, the goals, objectives, and actions should be monitored on a regular basis to maintain concurrence with changing conditions.
4. The plan should be updated at least every 5 years. Staff, and Policy Board should periodically review the plan and identify areas that might need to be updated.
5. The Solid Waste Department updates its Capital Improvement Plan annually. This plan takes a long term look at investments for the site. It is a five year plan updated annually
6. **Action Plan.** The plan implementation table below provides a detailed list and work schedule of major actions that the county should complete as part of the implementation of this plan. It should be noted that many of the actions require considerable cooperation with others, including the citizens of La Crosse County, county staff, solid waste companies, local/state governments, and adjacent property owners. The completion of recommended actions in the timeframe presented may be affected and or impacted due to competing interests, other priorities, and financial limitations facing the county.

**Table 9.1: Action Plan**

Action	Who is responsible?	Schedule
ADOPT SOLID WASTE MASTER LAND USE PLAN	SOLID WASTE POLICY Bd.	2011
INVESTIGATE THE LAND PURCHASE FOR ENTRANCE AMENDMENTS	COUNTY BOARD	2012
DESIGN, ENTRANCE AMENDMENTS	STAFF AND CONSULTANT	2012
POTENTIAL INSTALLATION OF ENTRANCE AMENDMENTS	DEPARTMENT THROUGH COUNTY BOAR	2015
ANNUAL CAPITAL IMPROVEMENT PLAN	DEPARTMENT	ANNUALLY