FRANKFORT SQUARE PARK DISTRICT

Frankfort Square Park District
Natural Areas Management Plan
January 2014

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Natural Areas Management Plan

Purpose

To define, identify and plan for the management of Frankfort Square Park District owned natural areas.

Overview

The Frankfort Square Park District (Park District) owns and maintains unique and diverse natural areas throughout incorporated boundaries of the Park District, including, but not limited to, mesic and wet mesic prairies, wetlands, woodlands, ponds, basins, designed constructed wetlands, and retention/detention areas.

Natural areas owned and maintained by the Park District provide a myriad of benefits that include, but are not limited to, improved water quality, compensatory water storage, erosion control, elimination of nitrogen-based fertilizers, reduction of chemical herbicide usage, proliferation of wildlife habitat and the creation of sustainable landscapes.

Though sometimes small in area, natural areas are valuable assets. Most of the Frankfort Square Park District natural areas are well defined, though some could be designated as recovering natural areas. The native plants that could provide wildlife with food and shelter are often missing. The deep roots of these native plants could stabilize shorelines and prevent fertilizer runoff, keeping the basins free of silt and algae. Most natural areas in the District need additional work to create the vegetation that performs these desirable functions.

Restoration is the word most often associated with a management plan for natural areas. Properly restored and managed natural areas result in a diversity of native plants that possess unique characteristics. Monetarily, "Habitat Quarterly" estimates that once natural areas are established "the maintenance of a natural landscape can be as little as one-seventh the cost of a traditional park landscape."

Natural areas increase biodiversity by creating greenways that provide a safe haven for mammals, reptiles, amphibians, birds, and beneficial insects. They also sustain an environment where native Illinois plants can thrive, and if needed, be successfully reintroduced.

These unique areas provide non-traditional recreational opportunities for the entire community, as well as a place for spiritual, scientific, and educational study.

Classification of Sites

Numerous classification systems exist to identify natural areas. The Frankfort Square Park District's natural areas will be divided into three basic categories: Prairie, Wetland, and Woodland.

Prairies

The prairies of Illinois were a type of grassland, a combination of forbs (flowering plants) and grass. At one time, prairies blanketed over 80% of the Will County landscape, characterized by a rich and diverse plant life. In the span of less than 50 years, the fertile soil of the tall grass prairie was converted to crops,

pastures and eventually subdivisions. Today, less than one tenth of one percent of native prairie remains in Illinois. The Frankfort Square Park District has received parkland donations in these subdivisions that now dot our landscape. The potential exists to recreate grasslands in certain parks received from developers. Though it is difficult if not impossible to create a full functioning prairie ecosystem, restoration to prairie type habitat is desirable.

Wetlands

Water at or near the soil surface for prolonged periods defines a wetland. The plants found in wetlands are uniquely adapted to the prolonged wet environment.

Wetlands deserve special attention. Due to their ecological significance, Section 404 of the Federal Clean Water Act empowering the United States Army Corp of Engineers to delineate and protect wetlands. As caretakers of these designated wetlands, the Frankfort Square Park District has an obligation to protect them.

Woodlands

The district's woodlands consist primarily of mature hardwoods. Without fire or mechanical thinning, unattended non-native invasive species such as Buckthorn, Honeysuckle, Multi Flora Rose and Garlic Mustard thrive. Most native plants cannot grow under the shade of these non-native invasive plants and the area becomes poor quality woodland.

Inventory of Sites

Based on the aforementioned characterizations, approximately 250 acres or 35% of the Park District's properties qualify as natural areas.

Management Plan

This Natural Area Management Plan will assist us in:

"Reclaiming, enhancing, and developing our natural areas."

Short Term Objectives

1. Remove exotic invasive plants.

Flora management techniques are applied to remove exotic invasive plants. This is the first step in restoring the ecological diversity of a site. Removal reduces the non-native seed source as well as plant competition. This is an ongoing annual process.

2. Perform site-specific ecological inventories and monitoring.

The Park District needs to know what it has in order to implement the most effective restoration plan for a particular site. These inventories and subsequent monitoring supply data necessary to facilitate long term management objectives and levels of restoration needed.

3. Work to eliminate encroachment onto park property.

Encroachment: *"To take another's possessions or rights gradually or stealthily encroach on a neighbor's land"* Acts of encroachment violate the natural aspect of an area, introduce exotic plants, suppress native plants, and present liability issues for the Frankfort Square Park District. Encroachment can be placed into four categories.

a) Mowing – cutting Park property without a signed mowing agreement.

b) Dumping – landscape waste, sod, spoils and/or garbage.

c) Structures – physical objects such as trampolines, bird feeders and gardens.

d) Plantings – unauthorized plantings of trees or shrubs which become a mowing hazard or obstacle.

4. Re-establish native species to increase diversity and ecological value of the area

Due to the degraded status of some of our natural areas, planting of indigenous native flora suitable to the site is necessary.

Long-term Objectives

1. Re-establish native species to increase diversity and ecological value of the area.

Due to the degraded status of some of our natural areas, planting of indigenous native flora suitable to the site is necessary.

2. Educate the community on naturalization benefits.

Our natural areas can be platforms for outdoor education. Natural area education serves to protect the environment, reduce costs, and increase community awareness. When educated on the environmental, ecological, and economic benefits of naturalization residents start to appreciate natural areas as a positive.

Management Tools

Flora Management Techniques

Invasive exotic species are a constant threat to Illinois native flora. Without insects and disease, among other various factors, from their country of origin to keep them in check, exotics have a competitive advantage over our native plants. Often exotic invasives create a monoculture within natural areas pushing out desirable native plants. Native plants create biodiversity and are best suited to our region, and over the long-term reduce maintenance cost per acre.

The following are several techniques used to manage undesirable plants while allowing Illinois native plants to flourish. Using an Integrated Pest Management System (IPM) and incorporating all of these techniques will increase the odds of success and make a positive ecological impact.

1. **Physical - Prescribed Burns**

   a) Fire is the principal tool when managing native areas. It is acre for acre, the most efficient / effective management tool available.

   b) The technique of using fire is referred to as a "prescribed burn." It is a planned process with clear objectives. Trained staff led by an individual who has obtained their Illinois Prescribed Burn Manager Certification (now required in Illinois unless resident is burning on their own private property) conduct the burns only after considering the time of year, weather, fuel conditions, appropriate burn techniques and above all else safety. A permit is required by the EPA, as well as notification of neighbors, police, and local fire departments.

   c) "Prescribed burns" are used because native plants have historically evolved with fire. The Northern Illinois ecosystem relied heavily on fire to maintain its character. Fire recycled nutrients, controlled woody vegetation, improved habitat, increased plant growth and reduced the risk of uncontrolled large fires. With European settlement and agriculture, fire was taken out of the equation. This allowed exotic species to spread over the landscape and disrupt the native ecosystem.

   d) "Torching" is another tool that directs fire to small populations of undesired vegetation with a propane tank attached to a small bell device used to direct flame. This should not be done during dry conditions (when prescribed burns are done); rather it is for small, directed heat which affect some non-native vegetation. Usually this task is done in the summer, or in areas that a prescribed burn was not effective due to non-natives being too green. Very effective in garlic mustard patches for example after a prescribed burn has consumed all other fuel around those isolated populations.

2. **Mechanical – mowing, weed eating and hand pulling.**
   a) Mechanical control methods are labor intensive but warranted in certain situations. They are used where fire cannot be introduced or to remove specific plants. Plants that are not deterred by fire, areas with little fuel and very wet areas are prime candidates for mechanical removal.
   b) Certain plants are not affected enough by chemicals to be killed, nor respond adversely to fire when it is reintroduced. Thereby, making some vegetation extremely difficult to be controlled. All techniques listed in this section must be properly timed at part of the Weed Management Plan in order to be controlled. Sweet clovers are an example of non desirable vegetation that may warrant mechanical control.

3. **Chemical – herbicide.**
   a) There are two types of herbicides used to control plants; selective and non-selective herbicides.
   b) Selective herbicides kill plants in a specific family such as broadleaf weeds or woody plants. Selective herbicides are used to manipulate the type of plants that you want to grow in a given area.
   c) Non-selective herbicides kill any plant to which they are applied.

4. **Biological – insects and bacteria**
    a) Currently approved biological control methods are limited. Investigations are underway to combat specific problem plants. An example is the Galerucella or Purple Loosestrife Beetle as it is commonly know, which has been successfully introduced to control Purple Loosestrife in wetlands.

    To date, no biological controls have been used by the District to control unwanted plants, but we will entertain the use of cost efficient and successfully proven methods in the future.

Management Practices

Plant management in the Park District's natural areas is the greatest challenge. Each site has its own characteristics and predisposition. The District's initial approach is general and is intended to control the predominant problem of invasive undesirable plants.

Prairie Practices

Illinois prairies were once a mix of numerous native forbs and grasses. Today exotic invasive species such as Canadian Thistle (*Cirsium arvense*), Reed Canary Grass (*Phalaris arundinacea*), Teasel (*Dipsacus fullonum*) and Sandbar Willow (*Salix interior*) have invaded our landscape.

1) Prescription Burn: Where native warm season grasses dominate, a fall burn is preferred.

2) Mechanical: Mowing/weed eating/hand pulling of undesirable vegetation prior to seed production.

3) Selective Chemical control: Use appropriate herbicide management techniques to control remaining exotic invasive and undesirable species

4) Brushing: Unwanted woody plants that survive the burn should be removed mechanically and stumps treated with appropriate herbicide to prevent re-growth (best done in winter when the ground is frozen and less compaction and wear on native vegetation occurs).

5) Seed/Plug: Introduction of additional desirable species in spring or fall to increase native density, diversity, and competition for resources preventing undesirable vegetation.

6) Monitor the area: Evaluate and document results.

Wetland Practices

Reed Canary Grass (*Phalaris arundinacea*), Purple loosestrife (*Lythrum salicaria*), and Common Reed Grass (*Phragmites australis*) are non-native invasive species that need to be address in our wetlands sites.

1) Prescription Burn: Wetland burns are preferably accomplished in the spring due to vegetation being drier and less green than in fall.

2) Mechanical: Mowing/weed eating/hand pulling of undesirable vegetation prior to seed production.

3) Selective Chemical control: Use appropriate herbicide management techniques to control remaining exotic invasive and undesirable species

4) Brushing: Unwanted woody plants that survive the burn should be removed mechanically and stumps treated with appropriate herbicide to prevent re-growth (best done in winter when the ground is frozen and less compaction and wear on native vegetation occurs).

5) Seed/Plug: Introduction of additional desirable species in spring or fall to increase native density, diversity, and competition for resources preventing undesirable vegetation

6) Monitor the area: Evaluate and document results.

Woodland Practices

Garlic Mustard (*Alliaria petiolata*), Multi Flora Rose (*Rosa multiflora*), Buckthorn (*Rhamnus cathartica*), and Japanese Honeysuckle (*Lonicera japonica*) are major exotic invasives in woodlands sites. These are understory plants that shade out native forest floor flora reducing diversity.

1) Prescription Burn: If the woodland is dominated by oaks (whose leafs produce an insulating effect for natives over the winter), a spring burn is recommended. However, if the majority of ground leaf litter is not oak and is open enough for grass to grow, it may be possible to burn in the fall (depending on density of non-native woody vegetation).

2) Mechanical: Mowing/weed eating/hand pulling of undesirable vegetation prior to seed production

3) Selective Chemical control: Use appropriate herbicide management techniques to control remaining exotic invasive and undesirable species

4) Brushing: Unwanted woody vegetation that survives the burn/foliar treatment should be removed mechanically and stumps treated with appropriate herbicide to prevent re-growth (in the winter).

5) Seed/Plug: Introduction of additional desirable species in spring or fall to increase native density, diversity, and competition for resources preventing undesirable vegetation.

6) Monitor the area, evaluate and document results.

Implementation

Short-term objectives are completed in-house. Removing exotic invasive plants, site-specific ecological inventories and eliminating encroachments can be done on a scheduled basis with District staff.

Once the District's Management Practices have begun, it will take 3-5 years for native forbs and grasses to mature. To maintain recovery continued monitoring and application of management techniques will be required.

This monitoring and maintenance is commonly referred to as "stewardship."

Timeline

We are presently in the process of maintaining our existing naturalized areas and restoring those that are evaluated as recovering. Our process is a continuous effort and each existing and new park site is evaluated for naturalization.

Site Specific Actions and Controls Completed with Recommendations for Current Season

Arbor Park

Past

- Planting native plugs at rock outcropping in 2010
- Installed bio bricks of Prairie Cord Grass (*Spartina pectinata)* and plugs of Blue Lobelia (*Lobelia siphilitica)* to east shoreline where wind is causing erosion in 2011.
- Prescribed burn 4/12/11
- Mechanical control – White and Yellow Sweet Clover (Melitotus alba, M.officinalis)
- Selective Chemical control - Canadian Thistle (Cirsium arvense) Common Reed Grass (Phragmites australis), Cattail (*Typha sp*)
- Brushing - Sandbar Willow (*Salix interior),* Ash (*Fraxinus),* Poplar (*Populus*)

Current (2013)

- Prescribed burn 3/29/13
- Mechanical control – White and Yellow Sweet Clover (Melitotus alba, M.officinalis)
- Selective Chemical control - Canadian Thistle (Cirsium arvense) Common Reed Grass (Phragmites australis)

Next Year's Recommendations (2014)

- Continue to monitor and add as necessary and available emergent vegetation and plugs in areas that have erosion issues
- Mechanically and Chemically treat, as appropriate, all undesired vegetation

Brookside Bayous

Past

- Permitting for OSLAD grant project and revisions to plan complete 2010
- Completion of grant project with the beginning of the restoration of the natural areas in 2011
- Selective Chemical control – Cattail (Typha spp), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Sandbar Willow (Salix interior), Non-desirable broadleaf vegetation
- Mechanical control - Garlic Mustard (*Alliaria petiolata*)
- Planting of native shrubs on Northeast side of site 2012
- Removal of garbage and woody debris (Thornton's) 2012
- Removal of maple saplings and brushing 2012

Current Year (2013)

- Selective Chemical control – Cattail (Typha spp), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Sandbar Willow (Salix interior), Non-desirable broadleaf vegetation
- Native warm season grass seed mix planting and matting on north edge of site by 191st
- Native emergent planting in basin
- Native Sedge planting east of boardwalk
- Native plug planting on wooded wetland edge
- Over seeding of area beyond boardwalk in annual oats
- Removal of saplings in area east of boardwalk

Next Year's Recommendations (2014)

- Continue Typha spp elimination by Chemical treatments as needed
- Remove any dead, dry, and down logs (leave any covered in moss or 'punkie' as "nurse logs")
- Thin cottonwoods to allow greater than 12% light increase to reach forest floor during growing season
- Remove any non-native or undesirable woody vegetation (mulberry, buckthorn, small cherry, brambles, etc.)
- Plant desirable bottomland trees
- If conditions allow seed forest floor with wet and wet mesic woodland native seed mix, ensuring plenty of sedges are included in mix
- Continue Chemical and Mechanical control of undesirable vegetation throughout area
- Prescribed burn in spring of bio swale and entire area in fall if enough fuel
- Additional plug planting as resources allow

Candle Creek Park

Past

- Installed native sign planting in 2012
- Supplemental watering of sign installation for establishment

Current 2013

- Maintained native planting with spring cleanup, weeding, mulch
- Seed collection

Next Year's Recommendations (2014)

- Maintained native planting with spring cleanup, weeding, mulch
- Seed collection
- Future plan as monies become available: Complete renovation to native buffer

Champions Park

Past

- Installed native sign planting in 2010
- Maintained native planting with spring cleanup, weeding, mulch and supplemental watering as necessary in 2011
- Seed collection from sign area

Current 2013

- Maintained native planting with spring cleanup, weeding, mulch
- Seed collection from sign area

Next Year's Recommendations (2014)

- Maintain native planting with spring cleanup, weeding, mulch
- Seed collection from sign area

Community Park

Past

- Manual control of Water Lettuce (*Pistia stratiotes*) 2010
- Removal and chemical application to Sandbar Willow (*Salix interior)* 2011
- Mowing to remove all spiked protrusions remaining from willow removal flush with ground 2012
- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), and other undesirable nonnative broadleaf vegetation

Current (2013)

- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), and other undesirable non native broadleaf vegetation
- Mowing of buffer area to prevent seed production of undesirable vegetation
- Continued restoration of buffer area with installation of native plugs, native seed and mat with goose control fencing

Next Year's Recommendations (2014)

- Selective Chemical control undesirable nonnative vegetation
- Monitor restoration efforts
- Continue to seed/plug as available

Crystal Lake Park

Past

- Installation of native sign planting in 2010
- Maintained native planting with spring cleanup, weeding, mulch and supplemental watering as necessary in 2011

- Seed collection from sign area
- Selective Chemical control –: Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Crown Vetch (Coronilla varia), Teasel (*Dipsacus fullonum*), and Common Reed *(Phragmites australis)*
- Chemical application and Mechanical removal of Sandbar Willow (*Salix interior)* 2011
- Prescribed burn: 4/15/10, 11/17/11
- Native over seeding 2011
- Installation of native planting in planting area south of gazebo 2012

Current (2013)

- Maintained native planting with spring cleanup, weeding, mulch
- Maintained new native planting with weeding, and supplemental watering as necessary

Next Year's Recommendations (2014)

- Maintain native plantings with spring cleanup, weeding, mulch
- Selective Chemical and Mechanical control of non-native invasive species
- Prescribed burn spring

Hunter Prairie Park

Current (2013)

- Installation of native garden planting
- Maintained native planting with weeding
- Seed collection

Next Year's Recommendations (2014)

- Maintain native plantings with spring cleanup, weeding, and mulch as necessary
- Seed collection

Indian Boundary South

Past

- Swamp Oak Tree Planting 2010
- Wetland plug planting of Giant Blue Lobelia *(Lobelia siphilitica)* 2011
- Prescribed burn 11/16/10, 12/4/12
- Selective mowing
- Selective Chemical control - Reed Canary Grass (Phalaris arundinacea), Sandbar Willow (*Salix interior)*, Purple Loosestrife *(Lythrum salicaria)* and other undesirable non- native broadleaf vegetation
- Native over seeding 2011,12

Current (2013)

- Chemical application of Intensity for control of Reed Canary Grass(Phalaris arundinacea)
- Selective Chemical control - Reed Canary Grass (Phalaris arundinacea), Sandbar Willow (*Salix interior)*, Bird's Foot Trefoil (*Lotus corniculatus*), Common Ragweed (*Ambrosia artemisiifolia*) Purple Loosestrife *(Lythrum salicaria)* and other undesirable non native broadleaf vegetation
- Selective Mechanical treatment (mowing)
- Planting of native plugs

Next Year's Recommendations (2014)

- Installation of new Bioswale north of Frankfort Square school to include earth work, native plug and seed installation
- Continue selective Mechanical and Chemical treatments of undesirable vegetation throughout entire area (including north side of ditch), Ensure RCG eliminated from entire site (including along ditch)
- Seed any area devoid of native vegetation
- Prescribed burn fall

Island Prairie Park

Past

- Mechanical control White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Giant Ragweed (Ambrosia trifida) and Common Ragweed (*Ambrosia artemisiifolia*)
- Selective Chemical control Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), White and Yellow Sweet Clover (Melitotus alba, M. officinalis), and other undesirable broadleaf vegetation
- Prescribed burns 11/13/09, 4/14/10, 4/14/11
- Plug planting in demonstration garden and wetland areas in 2010, 2011
- Winter sowing of native seed in 2010, 2012
- Chemical application of Imazapic E 2 SL to triangle area 9/28/12 at rate of ½ oz. per gallon 2012
- Selective Mechanical treatment as necessary (mowing)
- Brushing of undesirable woody vegetation
- Seed collection

Current Year (2013)

- Prescribed burn Interpretive Gardens - 3/28-29/13, Island Prairie Units C, D, E - 4/2/13
- Selective Chemical control Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), White and Yellow Sweet Clover (Melitotus alba, M. officinalis), and other undesirable broadleaf vegetation.
- Selective Mechanical treatment (mowing)
- Seed collection

- Seeding of native species including seeding experiment in triangle area

Next Year's Recommendations (2014)

- Prescribed burn spring Swale planting, Interior of Boardwalk west end, Burn Units A & B
- Prescribed burn fall Island
- Continue selective Mechanical and Chemical control of non-native vegetation
- Seed Collection
- Seed wetland areas devoid of vegetation
- Start water quality monitoring at upstream culvert, lake and at last point when water leaves this site

Kingston Park

Current (2013)

- Installation of native garden planting
- Maintained native planting with weeding
- Seed collection

Next Year's Recommendations (2014)

- Maintain native plantings with spring cleanup, weeding, and mulch as necessary
- Seed collection

Lake of the Glens

Northeast large basin

Past

- Spring Prescribed burn in 4/13/10, 3/14/12
- Over-Seeding of native species 2010
- Broadcast Mechanical control (mowing) of basin Spring 2011
- Selective Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Common Ragweed (*Ambrosia artemisiifolia*), and Teasel (Dipsacus fullonum) cutting of seed heads
- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), and Teasel (Dipsacus fullonum)
- Emergent plant extraction for Eagle Scout Project Pickerel Weed (*Pontederia cordata*) 2012

Current (2013)

- Selective Chemical control Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), and other undesirable broadleaf vegetation.
- Seed collection

Next Year's Recommendations (2014)

- Prescribed burn in spring focusing on back burning to assist in woody control
- Continue selective Mechanical and Chemical control of undesirable vegetation including across path where Canada Thistle is blowing seed into natural area
- Seed collection and distribution

Northeast small basin

Past

- Spring Prescribed burn in 4/13/10
- Over seeding of native species 2010
- Broadcast mowing of basin Spring 2011
- Prescribed burn attempt - fall 2011
- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Giant Ragweed (Ambrosia trifida), Common Ragweed (*Ambrosia artemisiifolia*), and Teasel (Dipsacus fullonum)
- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), and Teasel (Dipsacus fullonum)

Current (2013)

- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), and Teasel (Dipsacus fullonum), White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Crown Vetch (*Securigera varia*)
- Seed collection

Next Year's Recommendations (2014)

- Prescribed burn spring, focusing on back burning to assist in woody control
- Continue selective Mechanical and Chemical control of undesirable vegetation including across path where Canada Thistle is blowing seed into natural area
- Seed collection and distribution

Northwest basin

Past

- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Giant Ragweed (Ambrosia trifida), and Common Ragweed (*Ambrosia artemisiifolia*)
- Selective mowing
- Installation of new native "Lake of the Glens" sign planting 2010
- Selective Chemical control of Sandbar Willow (*Salix interior)*; Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea)
- Maintained native planting with spring clean up, weeding, mulch and supplemental watering as necessary

- Evaluation of native buffer planting: failure to thrive

Current Year (2013)

- Maintained native planting with spring clean up, weeding, and mulch as necessary

Next Year's Recommendations (2014)

- If monies become available, Total Restoration from scratch: broadcast herbicide entire shoreline and increase buffer to area not sloped to ensure limited soil erosion, native seed distribution, emat along slope around shoreline, plug emergent, remove evergreens (replace with native fire-tolerant shrubs if living fence desired), continue non-native vegetation control
- If budget does not allow for complete restoration, prevent aggressive invasive vegetation from establishing (per Weed Management Plan)
- Maintained native planting with spring clean up, weeding, and mulch as necessary

LaPorte Meadows

Past

- Installation of new native sign planting 2010
- Native plug planting within buffer and shoreline 2010
- Additions of emergent plants to original emergent wetland area on planting plan north of Liatris Dr. and east of Wildflower Dr. Goose netting installed 2011
- Installed 4 *Notice to Fishermen and Park User* signs around the basin 2011
- Worked with Susan Murphy regarding lot lines and management. Continued drawing imaginary straight line from stake to stake for herbicide spraying during season, but at the end of the season in 2011 on the west side of basin was told that the stakes were not correct and most likely came to water's edge
- Redefined lot lines and management responsibility 2012
- Installation of fencing with Private Property No Trespassing Signs installed June 2012
- Where appropriate encourage HOA to hire contractor to oversee the natural areas that are the HOA/individual homeowner's responsibility 2012
- Prescribed burn of Park owned areas 3/14/12
- Manual control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis)
- Selective Chemical control of Canadian Thistle (Cirsium arvense), Teasel (Dipsacus fullonum), and Sandbar Willow (*Salix interior)*
- Selective mowing of White and Yellow Sweet Clover (Melitotus alba, M. officinalis)
- Seed collection
- .Maintained native planting with spring clean up, weeding, and mulch as necessary

Current Year (2013)

- Selective Chemical control of Canadian Thistle (Cirsium arvense), Teasel (Dipsacus fullonum), Sandbar Willow (*Salix interior),* Common Reed Grass (Phragmites australis), and Reed Canary Grass (Phalaris arundinacea)

- Selective Mechanical treatment (mowing)
- Over seeding of park buffer site
- Maintain native planting with spring cleanup, weeding, and mulch as necessary
- Installation of Rain Garden in low area by new home at park site

Next Year's Recommendations (2014)

- Prescribed burn of park owned areas
- Continue to maintain Park, North, South and Southeastern areas of basin with Mechanical and Chemical control techniques as necessary
- Maintain native planting with spring cleanup, weeding, and mulch as necessary

Lighthouse Pointe

Past

- Fall Burn of Bio swale site BU #15 in 2010
- Selective Mowing
- Mechanical control - Garlic Mustard (*Alliaria petiolata*)
- Selective Herbicide control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), Sandbar Willow (Salix interior), and Teasel (Dipsacus fullonum)
- Installation of new native sign planting 2010
- Fall 2011 Chemical application of Habitat to Reed Canary Grass (Phalaris arundinacea) in BU #9 inlet by road and path
- Chemical control using Imazapic E 2 SL in 2011 to area in BU #2 Northeast side by townhomes, Plateau tolerant plug planting, and over seeding of this area with Plateau tolerant native seed
- Chemical control using Imazapic E 2 SL in 2011 to area just off of parking lot and over seeding with Plateau tolerant native seed
- Mechanical removal of Sandbar Willow (Salix interior) BU # 2 in 2011
- Installation of mowed fire breaks as needed for prescribed burning in fall
- Maintain native planting with spring clean up, weeding, mulch and supplemental watering as necessary
- Foliar treat undesirable woody vegetation in woodland environments with 2% Tahoe
- Eagle Scout project transplanting emergent plants to shoreline planting in JFN unit 2012
- Spring Prescribed burn of JFN unit #12 and chemical applications to non-native invasive species by Cardno JFNew 2012
- Prescribed burns complete BU #1- 4/12/11, BU #2- 4/13/11, BU #5- complete 12/7/12, BU#8 - 12/6/12, BU #6 -3/15/12, BU #7 -3/15/12, and BU # 10- 3/16/12

Current Year (2013)

- Prescribed burns complete in B.U.# 1,#2, #15 Bioswale – 4/3/13, B.U.#3 4/4/13
- Selective Herbicide control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), Sandbar Willow (Salix interior) Birds Foot Trefoil (*Lotus corniculatus*), Pig Weed (*Amaranthus retroflexus*), Giant Ragweed (*Ambrosia trifida*), and Teasel (Dipsacus fullonum)
- Selective Mechanical treatment (mowing)
- Maintained native sign planting with spring cleanup, weeding, and mulching as necessary
- Restoration of Bioswale at park site with installation of native plugs
- Installation of native plugs in area near retaining wall that is devoid of vegetation with heat/drought tolerant plants and over seeded area

Next Year's Recommendations (2014)

- Prescribed burns in spring for B.U. #4,5,6,7,8,9,10,11,12, and 14
- Continue Mechanical and Chemical controls of undesirable vegetation as found
- Seed collection and distribution
- In winter, brush all wooded areas of undesirable woody vegetation (buckthorn, olive, honeysuckle, any tree that is growing under a more desirable canopy tree-such as oak, diseased/damaged trees/shrubs-included crabapples that don't appear healthy, and primary species trees such as cottonwoods, and box elders) and chemically treat stumps to prevent regrowth. Leave dead, standing trees if safely at a distance from any path/infrastructure
- Reduce/Thin woodland canopies to allow at least 12% or greater light to penetrate to ground surface during growing season

Lincolnway North Park

Past

- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis)
- Selective Chemical control - Canadian Thistle (*Cirsium arvense*), Purple Loosestrife (Lythrum salicaria); Reed Canary Grass (Phalaris arundinacea)
- Selective mowing
- Fall Prescribed Burn 11/16/10,12/4/12
- Native shrub and Carex planting in mulched area in 2011
- Brushing of undesirable woody vegetation 2012
- Seed collection

Current Year (2013)

- Selective Chemical control - Canadian Thistle (*Cirsium arvense*), Purple Loosestrife (Lythrum salicaria) and Reed Canary Grass (Phalaris arundinacea)
- Seed collection

Next Year's Recommendations (2014)

- Fall prescribed burn
- Continue selective Mechanical and Chemical control of non-native vegetation
- Seed collection and distribution

Old Plank Trail Park

Past

- Mechanical control – Garlic Mustard (*Alliaria petiolata*)
- Selective Chemical control Common Reed (*Phragmites australis*)

Current Year (2013)

- Selective Chemical control Common Reed (*Phragmites australis*), Canadian Thistle (*Cirsium arvense*)

Next Year's Recommendations (2014)

- Prescribed burn
- Winter removal of woody invasive species (such as multiflora rose), primary/undesirable native understory (maple, cherry, brambles, and thin some elms) to ensure greater than 12% light can reach forest floor. (leave hickory's, oaks, redbuds, and some larger elms)
- Continue Mechanical and Chemical treatment of any undesirable vegetation (herbaceous and woody)
- If monies available plant failing grassy area with *Carex pensylvanica* and stop mowing where plugs are installed

Ridgefield Park

Past

- Prescribed burn – 3/19/12
- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Wild Parsnip (*Pastinaca sativa*)
- Selective Chemical control - Canadian Thistle (*Cirsium arvense*), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis)
- Selective mowing
- Brushing of undesirable woody vegetation

Current Year (2013)

- Selective Chemical control - Canadian Thistle (*Cirsium arvense*), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis)
- Selective mowing

Next Year's Recommendations (2014)

- Spring Prescribed Burn
- Continued Mechanical and Chemical control of non-native invasive species
- As monies become available, reestablishment of the northeast side of the bank and buffer area

Square Links Golf Course

Past

- Installation of native meadow plantings 2012
- Supplemental irrigation of meadow plantings for establishment

Current Year (2013)

- Maintained native plantings with spring cleanup, weeding, and mulch as necessary
- Additional installation of native plugs

Next Year's Recommendations (2014)

- Spring cleanup using walk behind mower
- Weeding and mulch as necessary
- Seed collection

Union Creek Park

Southwest basin

Past

- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis), Purple Loosestrife (Lythrum salicaria)
- Selective Chemical control - Canadian Thistle (Cirsium arvense), Teasel (Dipsacus fullonum), Purple Loosestrife (Lythrum salicaria), Common Reed Grass (Phragmites australis)
- Selective mowing
- Prescribed burns 4/24/07, 1/12/09, 11/15/11

Current (2013)

- Selective Chemical control - Purple Loosestrife (Lythrum salicaria)
- Selective mowing including keeping pathway by tree line on east side of basin

Next Year's Recommendations (2014)

- Prescribed Burn spring
- Woody removal and herbicide application to help maintain pathway on east side of basin
- Continue selective mowing including keeping pathway by tree line on east side of basin
- Continue Chemical and Mechanical control of non-native and undesirable vegetation
- Continue native seed collection and distribution

Southeast basin

Past

- Prescribed burn 4/17/07, 4/13/10, 3/14/12
- Native Over-seeding in 2010
- Planting of plugs in shoreline, and buffer area in 2010
- Native Seeding / plug planting and winter sowing to area disturbed by wildlife feeding in 2010
- Mechanical control – White and Yellow Sweet Clover (*Melitotus alba, M. officinalis)* Giant Ragweed (Ambrosia trifida), Common Ragweed (*Ambrosia artemisiifolia*), Purple Loosestrife (Lythrum salicaria)), Sandbar Willow (Salix interior)
- Selective Herbicide control - Canadian Thistle (Cirsium arvense), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria), Sandbar Willow (Salix interior)
- Spring 2011 mowing
- Seed collection

Current Year (2013)

- Selective Herbicide control - Canadian Thistle (Cirsium arvense), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria)
- Seed collection

Next Year's Recommendations (2014)

- Prescribed burn spring
- Continue Mechanical and Chemical control of all undesirable vegetation including cattail (Typha spp)

Sled Hill

Past

- Spring clean up
- Selective Chemical control - Canadian Thistle (Cirsium arvense), and other undesirable vegetation
- Mechanical removal of annual weed species
- Seed collection

Current Year (2013)

- Spring cleanup using walk behind mower
- Selective Chemical control - Canadian Thistle (Cirsium arvense) and other undesirable vegetation
- Mechanical removal of annual weed species
- Native plug planting in bare areas including additions of warm season grasses
- Supplemental watering of plugs planted

Next Year's Recommendations (2014)

- Prescribe burn or walk behind mow if burn not possible
- Remove honeysuckle at top of hill (if windbreak desired, plant native shrubs instead)
- Continue Mechanical and Chemical control of undesirable vegetation

White Oak Park

South Basin by Park

Past

- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis)
- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria)
- Brushing of undesirable woody vegetation
- Prescribed burn 4/13/11
- Seed collection

Current Year (201)

- Prescribed burn 3/29/13
- Mechanical control - White and Yellow Sweet Clover (Melitotus alba, M. officinalis)
- Selective Chemical control - Canadian Thistle (Cirsium arvense), Reed Canary Grass (Phalaris arundinacea), Common Reed Grass (Phragmites australis), Purple Loosestrife (Lythrum salicaria)
- Native plug planting in bare areas
- Seed collection

Next Year's Recommendations (2014)

- Continue selective Mechanical and Chemical control of non-native invasive species
- Seed collection

North East Basin behind homes

Past

- Mechanical control - Purple Loosestrife (Lythrum salicaria) cutting of seed heads
- Selective Chemical control - Purple Loosestrife (Lythrum salicaria), and Canadian Thistle (Cirsium arvense)

Current Year (2013)

- Monitoring of site
- No controls performed

Next Year's Recommendations (2013)

- Continued selective Mechanical and Chemical control of non-native invasive species as necessary

South East Basin by road

Past

- Selective Herbicide control – Cattail (Typha spp)

Current Year (2013)

- Monitored cattail populations no action taken this season

Next Year's Recommendations (2014)

- Continued selective Mechanical and Chemical control of non-native invasive species as necessary

Woodlawn Park

Past

- Removal and chemical application to Sandbar Willow (*Salix interior)* 2011
- Selective Herbicide control Sandbar Willow (*Salix interior*) and Purple Loosestrife (Lythrum salicaria),

Current Year (2013)

- Selective Herbicide control Purple Loosestrife (Lythrum salicaria),

Next Year's Recommendations (2014)

- Future plan as monies become available: Complete renovation to native buffer

Appendix A -Natural Areas Maintenance Policy

MISSION STATEMENT

It is the mission of the Frankfort Square Park District to provide accessible, non-discriminatory recreational services, facilities, and open space in an environmentally conscious, fiscally responsible manner.

NATURAL AREAS

The Frankfort Square Park District's natural areas consist of nearly 250 acres of protected open spaces. These natural areas are home to a wide diversity of life, including native plants and animal species whose habitats are constantly threatened due to development.

Natural areas increase biodiversity by creating greenways that provide a safe haven for mammals, reptiles, amphibians, birds, and beneficial insects. They also sustain an environment where native Illinois plants can thrive, and if needed, be successfully reintroduced.

These unique areas also provide non-traditional recreational opportunities for the entire community, as well as a place for spiritual, scientific and educational study.

MANAGEMENT AND FUTURE IMPROVEMENTS

Consistent with the Park District's mission, management of all natural areas will be conducted in an environmentally conscious and fiscally responsible manner.

Standard care shall reflect Integrated Pest Management (IPM), detailed in the "Chemical Applicators Guide" administered by the Illinois Department of Agriculture.

Best Management Practices (BMPs) are employed to provide sustainable maintenance and enhancement of all natural areas within the district.

Periodic assessment by knowledgeable professionals of natural areas will focus actions for the overall development of natural areas as a community resource.

SELECTIVE CONTROL OF INVASIVE PLANTS

Selective controls shall include mechanical removal, selective herbicide application, mowing, and controlled burns. This policy must be sustainable throughout the district.

BODIES OF WATER

Bodies of water with an average depth of less than 8 feet (basins, designed constructed wetlands, and non-stockable ponds) will be maintained as naturalized basins that promote beneficial aquatic plant life, such as River Bull Rush, Arrowhead, White Water Lily, etc.

Invasive aquatic species that threaten the health and benefits of these basins will be selectively controlled.

DEFINITION:

POND

A "Park District Pond" (pond) is any body of water that is a stockable location as defined by the physical criteria for the Illinois Department of Natural Resources fish stocking program, as defined below:

1. There must be no fish life present in the water area prior to the stocking of state fish.
2. The water area must be an impoundment (pond or lake) with a surface area of 1/2 acre or larger.
3. As a minimum depth requirement (dependent on latitude), the impoundment must be 7 to 10 feet deep in 1/4 of the water area.
    - Southern Illinois - 7 feet
    - Central Illinois - 8 feet
    - Northern Illinois - 10 feet
4. Fisheries management practices, as outlined by the District Fisheries Biologist, must be followed.
5. There must be no pollution of any kind entering the water area.
6. Livestock must be excluded (fenced) from the water area.
7. There must be no usage fees charged to fishermen using the state stocked impoundment. (1)

<u>The following Frankfort Square Park District locations are ponds that meet IDNR stockable criteria as fishable locations:</u>

- Indian Boundary South
- Woodlawn Park
- Island Prairie Park
- Crystal Lake
- Lake of the Glens (northwest pond only)
- Plank Trail Park (pond adjacent to playground only)

<u>The following Frankfort Square Park District locations, while often referred to as ponds, do not meet IDNR stockable criteria as fishable locations:</u>

- Community Park
- Lighthouse Pointe (west of Pfeiffer Road only)
- Ridgefield Park
- White Oak Park (behind homes north of Duane Avenue only)

DEFINITION:

BASINS

Detention Basins and / or Designed Constructed Wetlands are locations that do not meet the IDNR criteria for fish stocking, and typically have a depth of 3 feet or less and may have been originally designed and installed with native emergent and floating wetland plants.

The following Frankfort Square Park District locations meet these criteria:

- Arbor Park
- Candle Creek Park
- Lake of the Glens (all remaining basins)
- LaPorte Meadows
- Lighthouse Pointe (all remaining basins)
- Plank Trail Park (remaining basin)
- White Oak Park (all remaining basins)
- Brookside Bayous

MAINTENANCE OF PONDS

Why do we control aquatic vegetation?

Aquatic vegetation may restrict or prevent recreational activities such as fishing and boating.

Stockable locations in the Frankfort Square Park District are limited to Indian Boundary South, Woodlawn, Crystal Lake, Plank Trail (pond adjacent to playground only), and Lake of the Glens Parks (Northwest only). Island Prairie is a stockable location, as well as the only site where boating is allowed (non-motorized, such as canoes and kayaks). These are areas within the park district that meet the IDNR standards.

Fish are affected adversely by excessive aquatic vegetative growth. An overabundance of plants can lead to overpopulation and stunting of fish, and death and decomposition of vegetation can cause fish kills.

Exotic, invasive species of aquatic plants disrupt the natural functioning of aquatic and wetland ecosystems. They out compete native species of aquatic vegetation and eventually replace them. Consequently, all of the beneficial attributes of native vegetation, including the organisms that depend on it for habitat or food, can be adversely affected.

Where there is a lack of rooted submersed plants and excess nutrient level, algae blooms can cause foul odors and cover the entire water body.

In natural bodies of water, most of the native aquatic vegetation should be left untouched to provide the following benefits: oxygen production, and food and cover for fish and other aquatic organisms. Shoreline plants reduce wave erosion, remove nutrients, and can provide brood-rearing cover for fish and breeding waterfowl. A diverse community of native aquatic plants is essential to maintaining a healthy aquatic ecosystem. Effects include improved water quality and more desirable fish community. (9)

What if invasive aquatic plants threaten the habitat and overall health of the pond or basin? How do I know if there really is a problem?

The presence of aquatic plants does not necessarily indicate a problem needing corrective measures. A problem arises for homeowners when plants interfere with recreational activities such as swimming, boating, and fishing. Exotic plants have the additional effect of displacing native plant species, interfering with the food chain, and reducing fish populations. Proper identification of aquatic plants is the first step in understanding how to manage problem plants in a body of water.

Controlling the vegetation of a body of water can create unexpected management issues. Manipulating one component of a water ecosystem has consequences for other components of the system. For example, population growth of microscopic small green algae and macrophytes (large leafy plants and large plant-like algae) are inversely related. Bodies of water with abundant algae and poor water clarity generally have fewer submersed macrophytes. However, management efforts that reduce algae often result in increased growth of the remaining macrophytes. Removing the remaining macrophytes increases the effects of wind turbulence and redissolves nutrients in the sediments into the water. This results in an algal bloom, which turns the water green and has the opposite of the desired effect. The trade-off is clear, water with abundant submersed macrophytes versus an algae bloom with low water clarity and few macrophytes.

Shorelines with muddy substrates need aquatic vegetation to prevent suspension of the soil into the water. Goals of a management plan should be clearly identified in advance. The expectation of a perfectly clear, vegetation and algae-free lake, pond, or basin is unrealistic, and leads to disappointing results. (10)

SAMPLE OF
INVASIVE PLANTS TREATED BY THE
FRANKFORT SQUARE PARK DISTRICT

Canadian Thistle
Common Goldenrod
Common Reed Grass
Crown Vetch
Filamentous Algae
Garlic Mustard
Multiflora Rose
Purple Loosestrife
Reed Canary Grass
Sandbar Willow
Teasel
White Sweet Clover
Yellow Sweet Clover

EXAMPLE OF
NATIVE PLANTS
EMERGENT SPECIES FOR BASIN PLANTINGS

Sweet Flag
Common Water Plantain
Swamp Milkweed
New England Aster
Dark-Scaled Sedge
Bristly Sedge
Crested Oval Sedge
Common Lake Sedge
Broad-Leaved Wooly Sedge
Running Marsh Sedge
Lance-Fruited Oval Sedge
Awl-Fruited Sedge
Fox Sedge
Blunt Spike Rush
Creeping Spike Rush
Spotted Joe Pye Weed
Fowl Manna Grass
Sneezeweed
Blue Flag Iris
Common Rush
Torrey's Rush
Rice Cut Grass
White Water Lily
Pickerel Weed
Common Arrowhead
Hardstem Bulrush
Chairmaker's Rush
Soft-Stem Bulrush
Common Burreed
Prairie Cordgrass
Blue Vervain

DEFINITION:

BEST MANAGEMENT PRACTICES (BMPs)

BMPs are techniques used to control storm water runoff, sediment control, and soil stabilization, as well as management decisions to prevent or reduce nonpoint source pollution. The EPA defines a BMP as a "technique, measure, or structural control that is used for a given set of conditions to manage the quantity and improve the quality of storm water runoff in the most cost-effective manner." (3)

Storm water management BMPs are control measures taken to mitigate changes to both quantity and quality of urban runoff caused through changes to land use. Generally, BMPs focus on water quality problems caused by increased impervious surfaces from land development. BMPs are designed to reduce

storm water volume, peak flows, and/or nonpoint source pollution through evapotranspiration, infiltration, detention, and filtration or biological and chemical actions.

Storm water BMPs can be classified as "structural" or "non-structural." There are a variety of BMPs available, depending on pollutant removal capabilities. A list of BMPs available can be found at the Storm water Authority Guide to BMPs. (4)

DEFINITION:
ENCROACHMENT

According to American Heritage Dictionary, Encroachment means "To take another's possessions or rights gradually or stealthily...To advance beyond proper or former limits." In either case it is the accidental or blatant attempt of using more land than they have the original right to utilize. If allowed to continue, an unwritten precedent is set and encroachment will only spread and/or get worse with time. Enforcement needs to be throughout as it is very difficult to allow encroachment in one area and not another without repercussions. Therefore, elimination of the tolerance for the practice is the only means by which the prevention of encroachment can occur.

DEFINITION:
SUSTAINABLILITY

The traditional definition of sustainability calls for polices and strategies that meet society's present needs without compromising the ability of future generations to meet their own needs.

The 1970 National Environmental Policy Act (NEPA) formally established as a national goal the creation and maintenance of conditions under which humans and nature "can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans " [emphasis added]. (5)

According to the Thomas Jefferson Sustainability Council, sustainability may be described as our responsibility to proceed in a way that will sustain life that will allow our children, grandchildren and great-grandchildren to live comfortably in a friendly, clean, and healthy world that people:

1. Take responsibility for life in all its forms as well as respect human work and aspirations;
2. Respect individual rights and community responsibilities;
3. Recognize social, environmental, economic, and political systems to be inter-dependent;
4. Weigh costs and benefits of decisions fully, including long-term costs and benefits to future generations;
5. Acknowledge that resources are finite and that there are limits to growth;
6. Assume control of their destinies;
7. Recognize that our ability to see the needs of the future is limited, and any attempt to define sustainability should remain as open and flexible as possible. (6)

At the World Commission on Environment and Development in 1987 (the Brundtland Commission), sustainability was defined as:

Development that meets the needs of the present with out compromising the ability of future generations to meet their own needs.

It is enshrined in the Swiss federal constitution. It is similar to the "seventh generation" philosophy of the Native American Iroquois Confederacy, mandating that chiefs always consider the effects of their actions on their descendants seven generations in the future. (7)

Sources

1. I Fish Illinois "The fishing website for Illinois Waters" Frequently asked questions.

http://www.ifishillinois.org/gofish/FAQ.html#mybiologist

2. Sustainable Forestry Initiative Program Best Management Practices to Protect Water Quality

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http://www.stormwatercenter.net/

3. "The most effective BMP will protect the environment and your business"
http://www.stormwaterauthority.org/bmp/

4. Storm water Management BMPs
http://en.wikipedia.org/wiki/Best_management_practice_for_water_pollution

5. What is Sustainability?
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6. http://www.sustainablemeasures.com/Sustainability/DefinitionsDevelopment.html

7. http://www.sustainabilitydictionary.com/s/sustainability.php

8. http://www.naturalarea.org/

9. Wiesbrook, Michelle, Illinois Pesticide Applicator Training Manual 39-6 Aquatics
Department of Natural Resources and Environmental Science Urbana , Illinois. 2005.

10. Do I have a problem?
http://www.extension.umn.edu/distribution/horticulture/DG6955.html

ORDINANCE NO. 10-04-236

AN ORDINANCE PROVIDING FOR UNIFORMITY IN MANAGEMENT STANDARDS OF ALL NATURAL AREAS OWNED BY THE FRANKFORT SQUARE PARK DISTRICT

Whereas, the FRANKFORT SQUARE PARK DISTRICT owns properties in unincorporated Frankfort Township, the Village of Frankfort, and the Village of Tinley Park, Will and Cook Counties, the BOARD OF COMMISSIONERS has determined it to be in the best interest to set uniform practices in the management, future development, and maintenance of native landscapes throughout the district.

Whereas, the mission of the Frankfort Square Park District states:

It is the mission of the Frankfort Square Park District to provide accessible, non-discriminatory recreational services, facilities, and open space in an environmentally conscious, fiscally responsible manner.

NOW THEREFORE, BE IT ORDAINED, by the BOARD OF COMMISSIONERS of the FRANKFORT SQUARE PARK DISTRICT, Will County, Illinois, and Cook County, Illinois, that:

1. The Frankfort Square Park District (Park District) owns and maintains unique and diverse natural areas throughout incorporated boundaries of the Park District, including, but not limited to, mesic and wet mesic prairies, upland and lowland prairies, woodlands, ponds, basins, and retention/ detention areas.

2. Natural areas owned and maintained by the Park District provide a myriad of benefits that include, but are not limited to, improved water quality, compensatory water storage, erosion control, elimination of nitrogen-based fertilizers, reduction of chemical herbicide usage, proliferation of wildlife habitat and the creation of sustainable landscapes.

3. The Park District shall maintain, develop, and promote environmental stewardship, providing its natural areas as community resources for the education and enjoyment of Park District residents, and will promote community awareness of Best Management Practices (BMPs) as herein defined:

   Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development.

4. The Park District's management standard for methods of care in providing overall enhancement of natural areas shall include, but not be limited to, mowing, prescribed burns, mechanical removal, selective herbicide control, over-seeding, and installation of plugs and plants within the limitations of staff and budget.

5. The Park District will only employ removal of invasive, non-native plants that would detract from the Park District's mission, limit recreational use in defined locations, or threaten the overall health and success of plant and animal life.

6. The management standard shall only allow chemical herbicide control by licensed chemical operators overseen by licensed chemical applicators, as permitted by the Illinois Department of Agriculture.

   Chemical herbicides will be applied in strict adherence to the manufacturer's label for effective control of listed species. Its use, at approved levels of application, will be for non-natives that threaten the success of native landscapes, the overall viability of natural areas, or to facilitate recreational usage of specified locations. Recreational usage is defined as:

   A Park District fishable location that meets the IDNR criteria for fish stocking, comprising an average depth greater than 8 feet for the total surface area of the body of water. The only approved location for recreational boating within the Park District is at Island Prairie Park.

7. The management standard shall not incorporate controls of natural areas exclusively for aesthetic purposes. Natural areas provide a specific purpose, and "appearance", a non-quantified measure, shall not provide the basis for herbicide control of native plant life.

8. The Park District shall periodically evaluate and solicit an independent third-party review by non-Park District personnel with expertise in natural and native landscapes to create a summary of property and define objectives for future management and enhancement.

9. Advanced training shall be provided for Park District staff in the form of applicable workshops/seminars and classes, related to natural areas management.

ENACTED by the Frankfort Square Park District on the 15th day of April, 2010, on the Motion of Park Commissioner _____ and the second of Park Commissioner _____ and the following roll call vote:

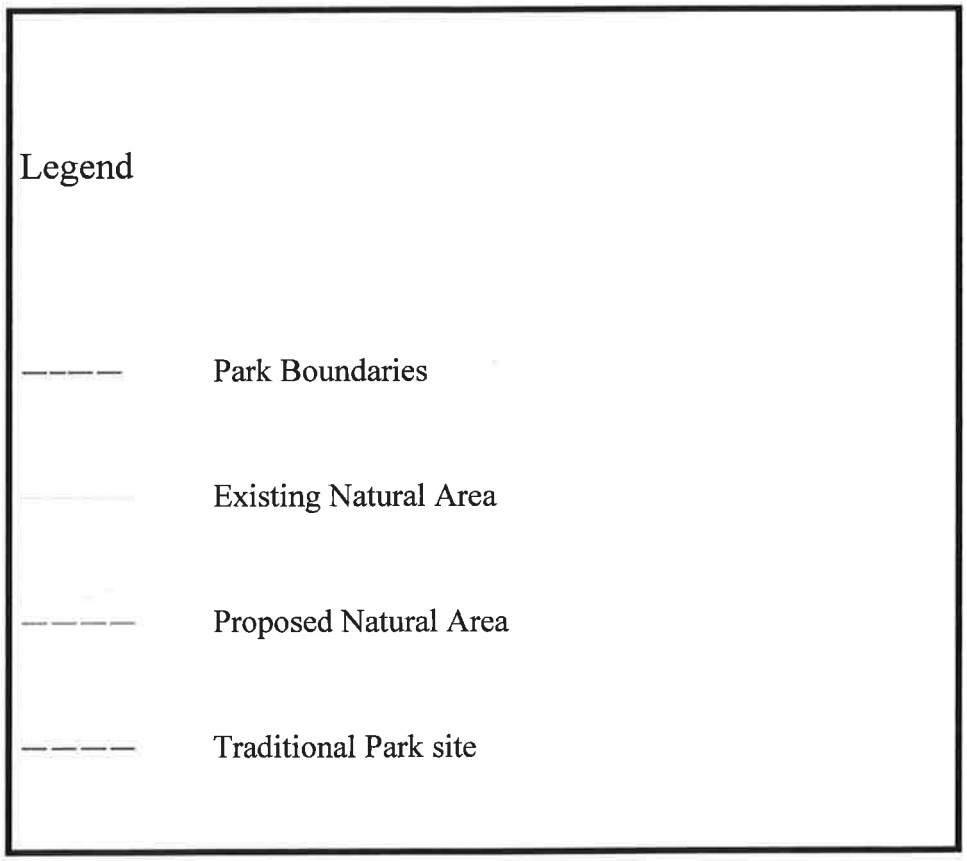
_____ Ayes
_____ Nays
_____ Abstain
_____ Absent

APPROVED by me this 15th day of April, 2010.

By:_____
Pamela Kohlbacher, President
Park Board of Commissioners

ATTEST

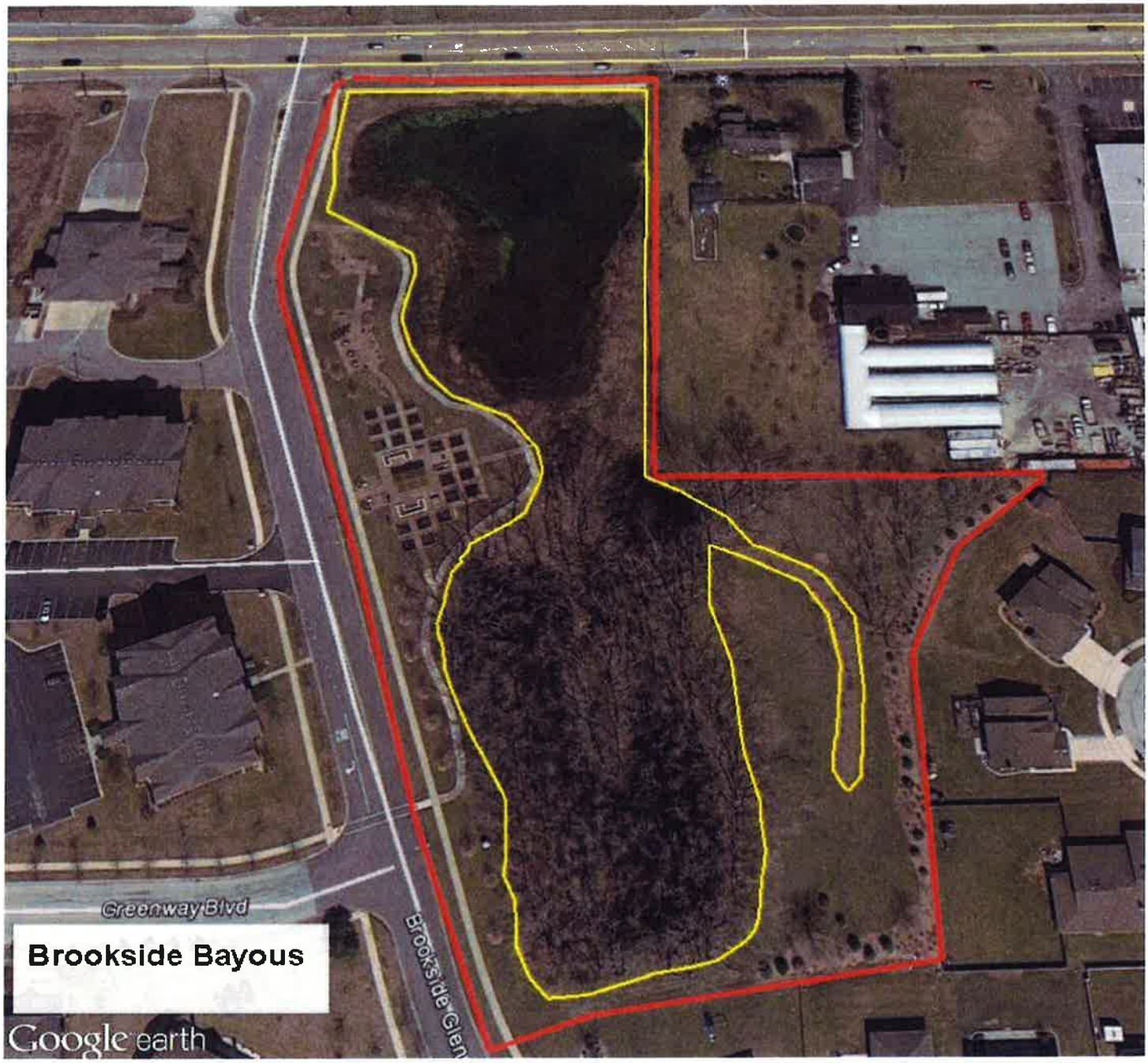
Appendix B Selective Park Maps



Arbor Park

7.23 acres of Natural Area including

designed constructed wetland with and prairie buffer



Brookside Bayous and Community Gardens Park

3.29 acres of Natural Area including wetland, basin, wooded wetland and Bioswale

Island Prairie Park

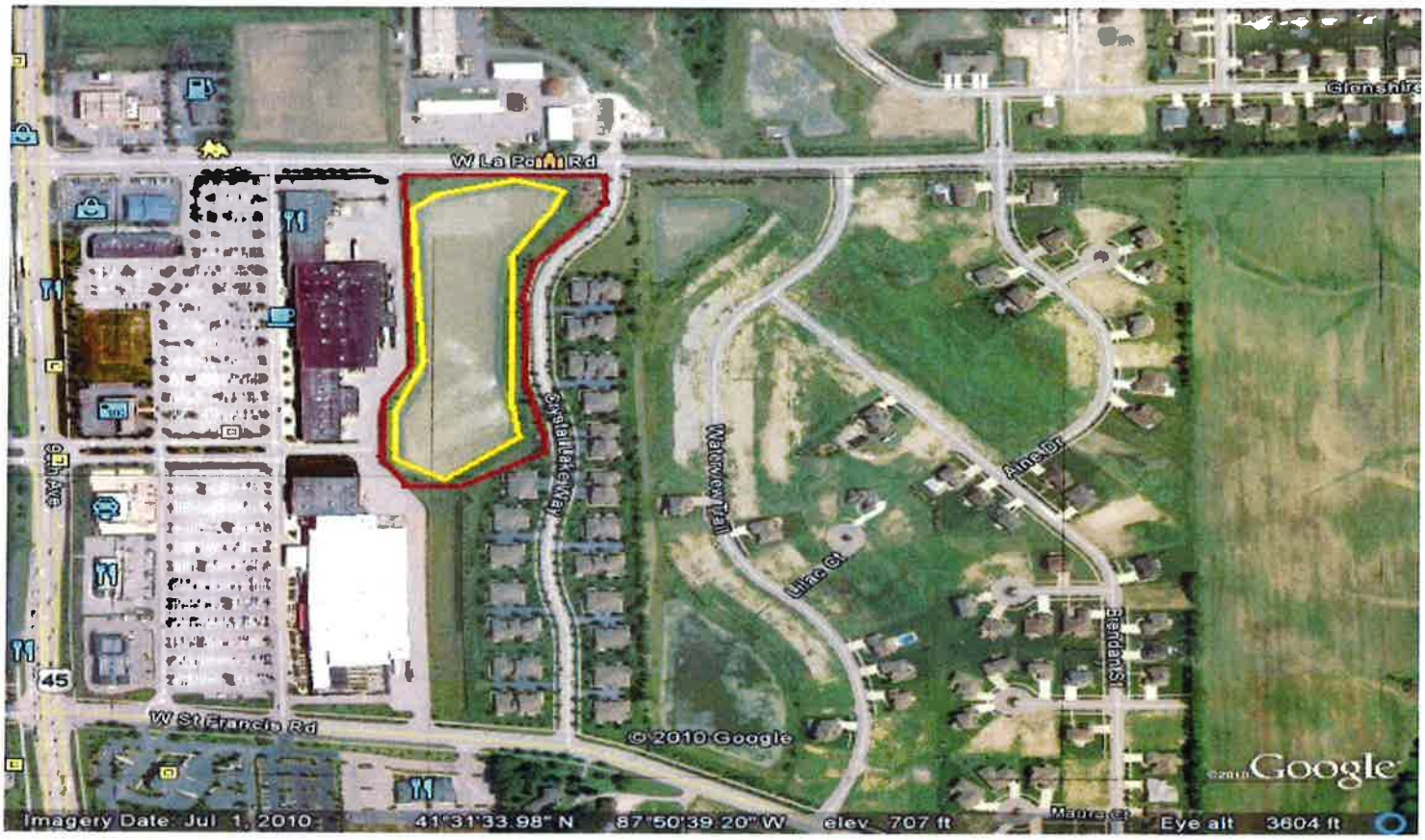
42 acres of naturalized area within 55 acre park site.

Natural area #1 consist of Wet Mesic Prairie, Emergent Marsh, and open water.

Natural area #2 consists of the Island Prairie Nature Center Demonstration Gardens

Community Park

3.58 acres consisting of basin and current restoration of native prairie buffer



Crystal Lake Park

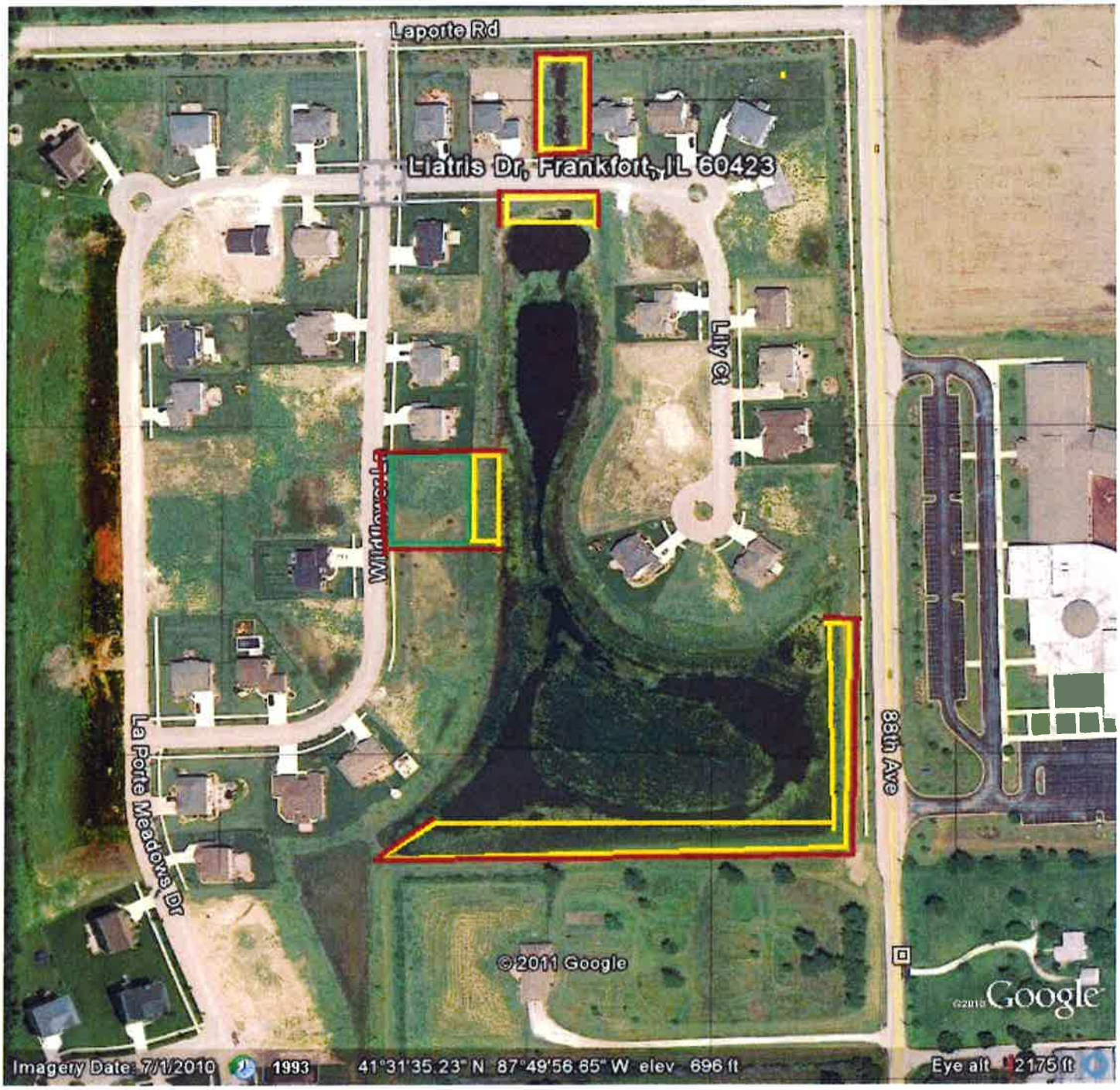
6.5acres of naturalized area within 10 acre park site. Natural areas consist of Mesic Prairie buffer, emergent wetland/open water basin.

Indian Boundary South Park

9.75 acres of naturalized area within 30 acre park site. Natural area consists of Marsh Meadow and Emergent Marsh. Future Naturalized area installation to consist of Mesic Prairie buffer, emergent wetland, and open water.

Lake of the Glens Park

16.86 acres of naturalized area within 34.50 acre park site. Natural areas consist of Mesic Prairie buffer, emergent wetland/open water basin.



LaPorte Meadows Park

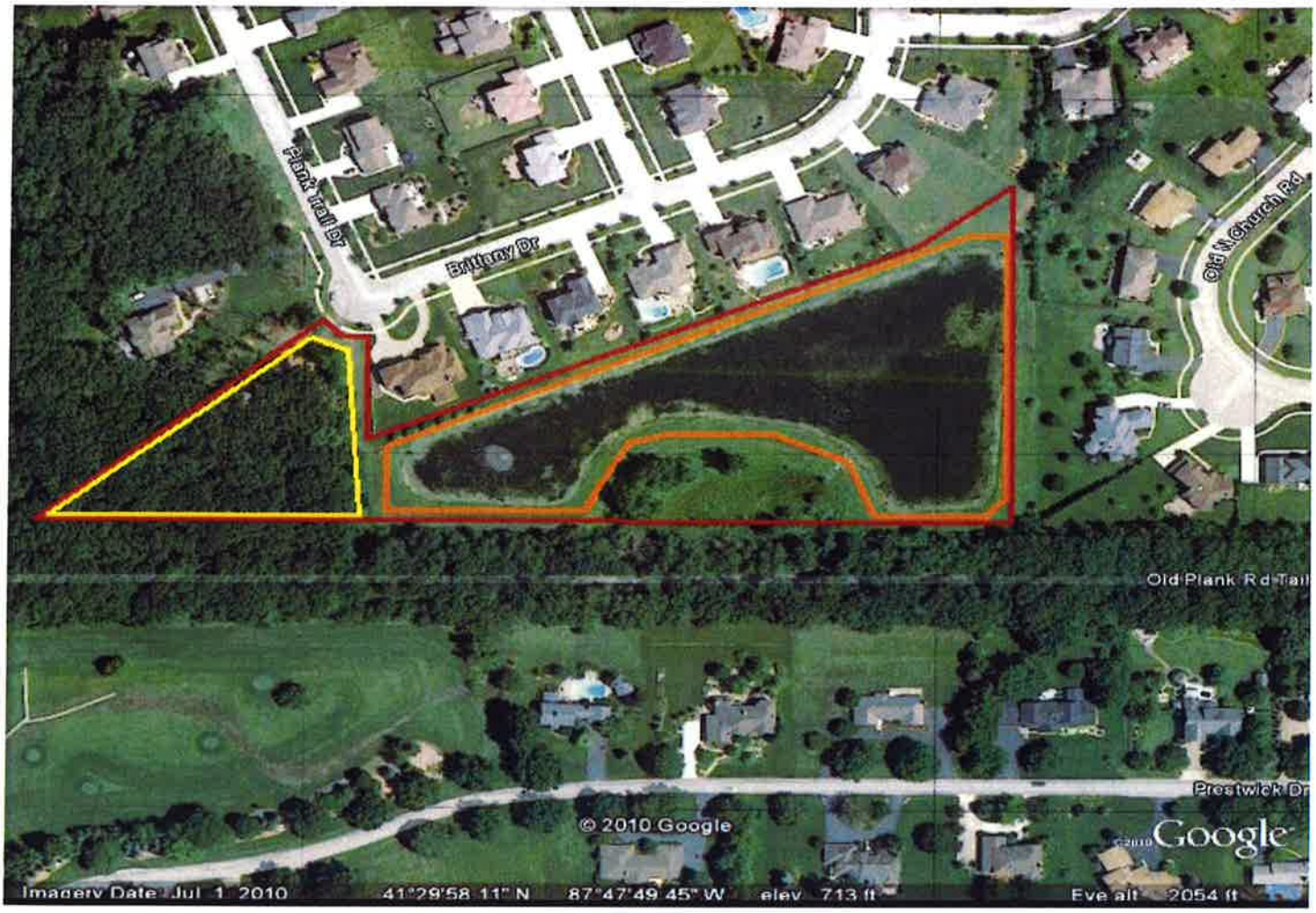
6.74 acres of Natural area Park owned property as shown. Areas behind homes is conservation easement and determined to extend into water by HOA in 2012. Natural areas consist of Mesic Prairie buffer, emergent wetland and open water.

Light House Point Park

64.11 acres of naturalized area within 90 acre park site. Natural areas consist of Mesic Prairie buffer, emergent wetland/open water basins.

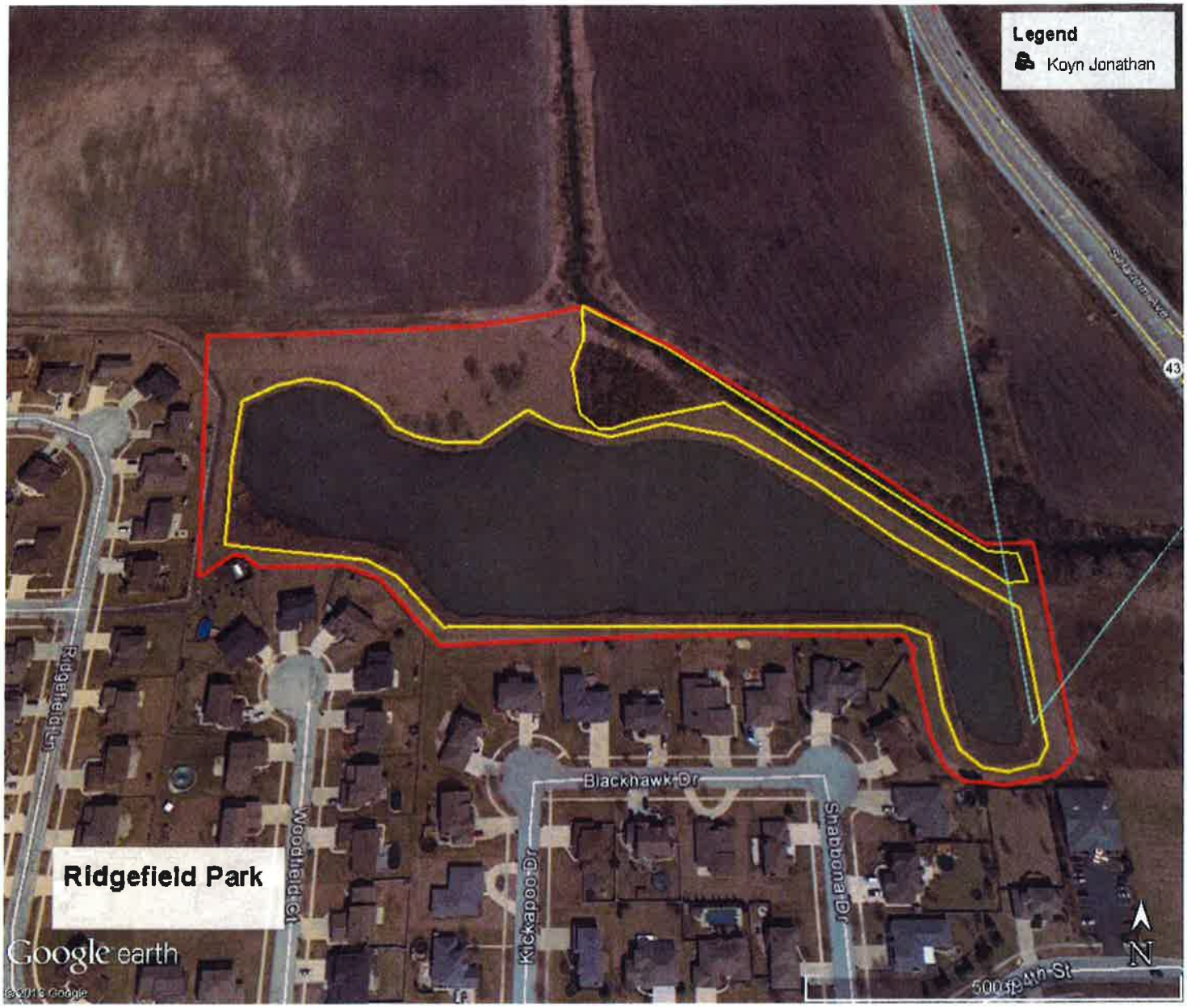
Lincolnway North Park

0.32 acres of naturalized area within 1.5 acre park site. Natural area consists of Mesic Prairie planting.



Old Plank Trail South Park

7.65 acres of naturalized area within 7.65 acre park site. Minimal turf grass buffer around retention basin natural area consists of woodland.

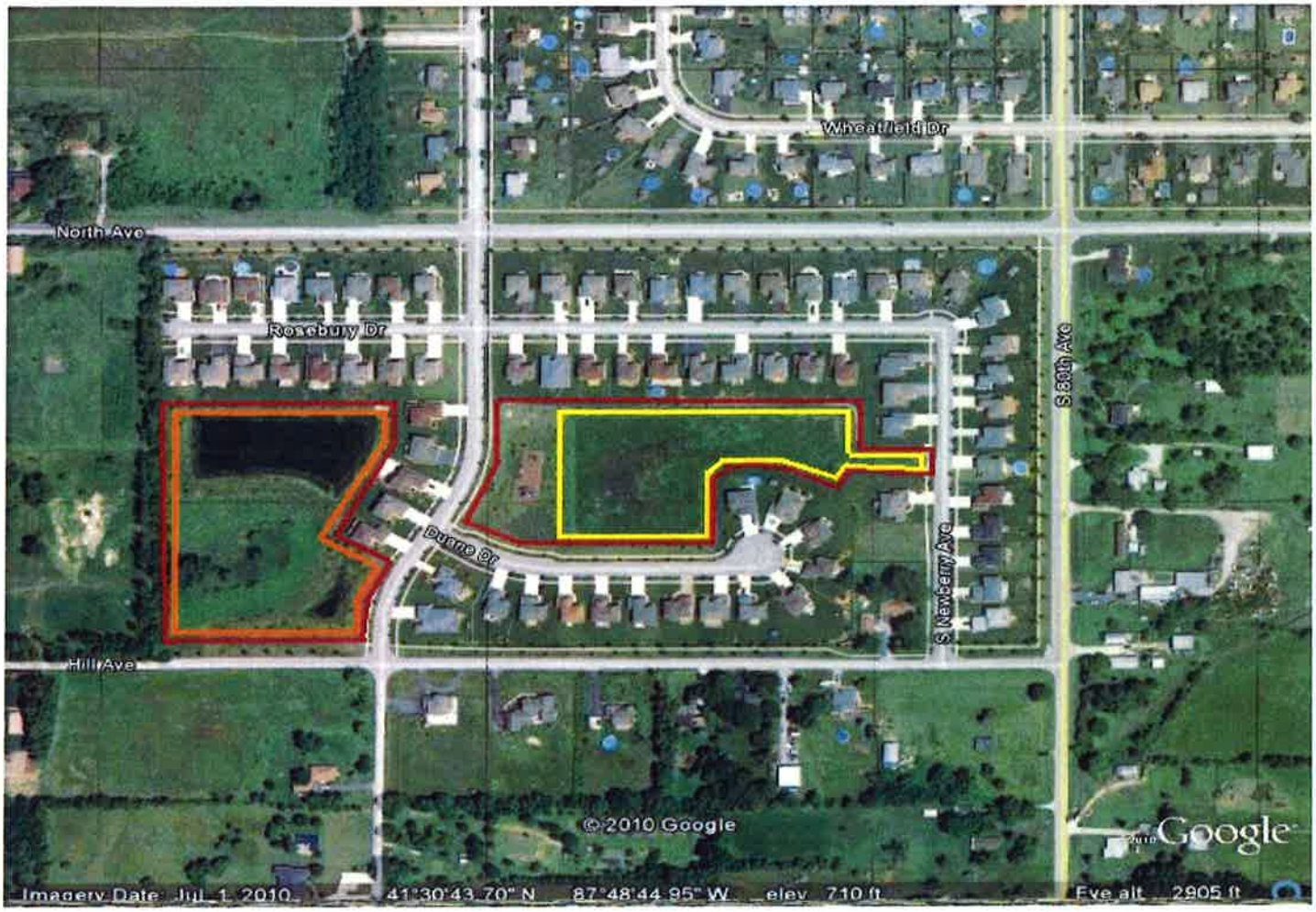


Ridgefield Park

9.80 acres of naturalized area within the 18.5 acre park site. Natural area consists of Mesic Prairie buffer, emergent wetland/open water basin and woodland.

Union Creek Community Park

12.48 acres of naturalized area within 70 acre park site. Natural area consists of prairie buffer, woodland and riparian buffer along Union Ditch.



White Oak Park

8.51 acres of naturalized area within 11 acre park site. Natural areas consist of prairie buffer wet mesic prairie and woodland.