



for Homeowners Associations in Lincoln, Nebraska

City of Lincoln Transportation & Utilities Department City of Lincoln Parks and Recreation Department Lower Platte South Natural Resources District Nebraska Environmental Trust

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When you purchased your new home, or the lot on which you planned to build it, one thing that influenced your decision may have been the open land, or neighborhood greenspace nearby. Many people put high value on being close to areas where wildlife may be seen, trees and flowers can be enjoyed, and children and adults have the space and freedom provided by the outdoors. Nationwide, the sale price of properties with adjoining open space averages 15 - 30% higher

than properties that are bordered only by other residences.

However, with this amenity comes responsibility. This handbook is designed to aid homeowners associations in the care and maintenance of their neighborhood greenspaces. We also encourage the incorporation of trees. wildflowers, native grasses, and wetlands in these areas. Many subdivisions include areas reserved as



open space to enhance the quality of life of residents, or for the purpose of conveying stormwater. These areas, often called outlots, need to be maintained regularly if they are to remain functional and attractive.

This manual is being offered to your homeowner's association in the hope that it will serve as a tool and resource for the formation of a maintenance plan for your neighborhood greenspace. The format chosen for this manual is a step-bystep guided planning process intended to be followed as a group, as well as a review of different greenspace designs common to Lincoln and resources you may use for further information. This manual does not have "recipes" for maintenance, nor does it have the answers to all of the questions you probably have. What it does contain is a framework within which you, and all the members of your homeowners association, can build a plan for the organized and well thought out care of your neighborhood greenspace.



### BOUT NEIGHBORHOOD GREENSPACES

Many greenspaces in the City of Lincoln have been established to conserve and protect drainageways or to otherwise convey or store stormwater runoff from rainfall events. Along most natural drainageways, the City has a requirement called a Minimum Flood Corridor to preserve vegetative buffers. Vegetative buffers are areas of natural vegetation bordering waterways that are left undeveloped to convey stormwater and filter pollutants. They have added benefits of increased stormwater quality and groundwater recharge, increased natural habitat, as well as decreased runoff to areas downstream.

The Minimum Flood Corridor standard generally requires an undisturbed corridor at least as wide as the channel bottom width, plus 60 feet, plus six times the channel depth (see diagram below). For example: an area of 200 acres is drained by a drainageway that is 3 feet wide and 1 foot deep. The corridor that must be preserved is:  $3' + 60' + (6 \times 1') = 69'$  total width, or 34' 6'', from the centerline of the drainageway on each side.





There are City-approved plans and ordinances that guide the use and standards for many neighborhood greenspaces, especially those that accommodate stormwater drainage. For example vegetation within Minimum Flood Corridors is required to be preserved. There are certain exceptions to this rule that relate to the maintenance and functionality of the area, including the removal of vegetation that is considered a noxious weed.

Stormwater storage facilities also have important requirements. These areas may have been designed to store stormwater for a short period of time or to maintain a permanent pool. They have been designed to handle the stormwater that can be expected during larger storm events. It is important to understand that all stormwater storage facilities and waterways are a part of a larger system in the City of Lincoln. Maintenance agreements for stormwater facilities and other neighborhood greenspace areas should be incorporated in covenants and restrictions in deeds that would have been signed by you at the time you purchased your property. The responsibility for this maintenance lies with the developer during the construction of the subdivision. As construction is completed, however, the developer usually conveys ownership of the land to a group of residents called a homeowners association. From that point on, the responsibility for maintenance lies with the homeowners association. Similarly, any improvements required to address problems (e.g. bank erosion, sedimentation, tree removal, etc.) or to decrease the cost of long-term maintenance are the responsibility of the homeowners association. State and local agencies may be able to provide advice on the maintenance or improvement of neighborhood greenspaces, but the ultimate responsibility rests with the property owners.

#### FORMWATER FACILITIES

The purpose of many greenspaces relates to the transport, storage, and infiltration of stormwater. As pavement, buildings, sidewalks and other impermeable surfaces are constructed, the ability of the land to absorb water is decreased. This means that when there is a rain event, more water may be carried away from the area by storm drains than natural waterways. In many cases, stormwater storage cells are constructed to retain water for a time so that it can infiltrate the soil, evaporate, or be released into waterways at a slower rate.

#### **DETENTION CELLS**

Dry cells, or detention cells, are designed to hold water for no longer than 72 hours following a rain event. The water infiltrates into the soil or is slowly released into a waterway. During dry periods, the cell is a grassy depression. The advantage of using detention cells is the reduction of water flows that may otherwise cause downstream flooding and



property damage during a storm event.

#### **RETENTION CELLS**

Retention cells, or ponds, are designed to maintain a constant pool of water, although they may dry up during periods of extended drought. Retention cells require a fairly large area and some constant flow to maintain the pool of water and may not be appropriate for every site.





A sediment forebay is a small depression located near the inlet of a storm basin or other stormwater management facility. They are designed as initial storage areas to trap and settle out sediment and heavy pollutants before they reach the main basin. Sediment forebays act as a pre-treatment feature on a stormwater pond and can greatly reduce the overall pond maintenance requirements.



#### WETLANDS

Wetlands are transitional areas where land and water meet.

They contain plants that thrive in soil saturated with water. Wetlands are protected under state and federal regulations because they provide many important functions such as flood control, wildlife habitat, and pollution treatment.



Wetlands help water quality by trapping sediments and filtering pollutants. A wetland can act as a natural sponge and store stormwater that might otherwise cause downstream flooding.

#### WATERWAYS

A waterway is a path that water follows during a rain event. The waterway may have a flow during most of the year, or only during rainy periods. A healthy waterway will convey water through your property in a way that the water leaving the greenspace is as clear as, or clearer than, the water entering the greenspace. In general, the slower a stream flows, the more stable it will be.

Grassed or vegetated bioswales may be used in areas where there is not a regular flow of water except for during storm events. A bioswale is a drainageway with a very gradual slope, a broad flat bottom, and gently sloped sides. Bioswales planted in turf forming grasses are generally mowed regularly, while other types of vegetation such as native prairie plants are mowed once or twice per year.

#### PRAIRIES

Prairies can be a useful landscape scheme for bioswales and other areas of land surrounding your waterways, retention, or detention structures. Prairie plants have very hardy root structures and are highly effective erosion control plants. Because prairies are native to Nebraska, they are very well adapted to the extremes of heat and cold. They are also able to handle periods of extreme drought and short periods of flooding. Prairies require little maintenance once established and, if properly planned, include colorful displays year-round. Prairies serve as ideal habitats for the native wildlife of Nebraska as well.







ETTING STARTED

The maintenance of a neighborhood greenspace may seem daunting. But you are not in this alone. You have a group of people-the homeowners in your association who have just as much stake as you in the process. It will help to act as a team, pool your skills and expertise, and work together to formulate a solid plan of action.

The best way to start a neighborhood greenspace team is to get together four to six committed association members as an organizing group. This group will want to decide on a general outline of the process you will use to set up a greenspace management plan. Decide on dates for meetings, techniques for getting information out to association members, and ways to make the meetings interesting so that members will want to stay involved.

Develop a brief informational packet for meeting attendees. This might include an introduction to the concept of the neighborhood greenspace, a description of the maintenance responsibilities, the meeting agenda, and contact names and numbers for the organizing team.

As you go through the steps in the following sections, remember that every group has its own needs and expectations. The planning process described here is meant to be general and adaptable. You will need to use your own judgment in the details of how to proceed.

#### THE PLANNING PROCESS

There are some basic steps that all groups should follow in order to create a plan that will be workable and have the results that your neighborhood desires. As the organizing group, your job will be to help the association members assess the assets and challenges of the greenspace, identify the goals of the association, set priorities, and identify the resources available to the association. Your resources will include your members, who may have knowledge or skills relating to plants, grading and other dirt work, or other items. After these steps have been taken, you can go forward as a group to put into action a plan that will achieve your goals without depleting your resources.

#### **ASSESSING THE AREA**

The first step in the planning process is to assess the area for which your group is responsible, which will help you identify the positive and negative factors already present.

A map of your area showing lot lines, locations of storm drain structures, and elevation lines can be obtained from the Lincoln/Lancaster County Planning Dept. A rough sketch of tree masses, native plants, areas of stream bank erosion, areas of cloudy or muddy water, wetland plants, debris and trash can all be drawn on the maps. After your assessment activity, assemble all the data onto a single large map for display at your second meeting. Do not attempt to assign value to these features yet. That will be part of Step 2.

Note: If desired, you may want to take water and soil samples for testing. Testing kits can be obtained in most lawn and garden stores. Report any problems to the appropriate agencies listed in Appendix A of this handbook.

While visually assessing the greenspace, make notes of surrounding land uses like trails, ball fields or open playfields. Later discuss the possible impacts of these areas directly adjacent to your greenspace and prioritize which benefits to maximize.





#### **STREAMBANKS**

The following can indicate an erosion problem:

- Undercutting
- Lack of vegetation
- Bare tree roots

The following can indicate a pollution problem\*:

- Dead vegetation
- Pipes that emit an odor or a liquid that is something other than clear water
- Oil slick or oily plants
- Trash and debris caught in vegetation
- Excessive sediment

#### WATERWAYS

- Streams should carry water that is clear or tea-colored.
- Cloudy or muddy water could indicate erosion upstream\*.
- Milky or foul smelling water or foaming along edges could indicate septic leaks or illegal sewer connections.
- Heavy algae could indicate overabundance of nutrients from pet wastes or lawn fertilizers.
- An oily sheen could indicate illegal dumping.

#### PONDS OR RETENTION CELLS

- Banks free of vegetation may lead to erosion and encourage resident geese.
- Muddy water indicates silt on the bottom being churned up by surface wind, or silt being washed into the pond from upstream.
- A rotten egg smell can indicate a build-up of dead vegetation.
- Oil sheens on the surface indicate illegal dumping.
- Outlet structures that are partially below the surface but show no discharge on the downstream side may indicate some blockage internally.

#### **DETENTION CELLS**

- Detention cells are designed to be completely drained 72 hours after the end of a storm event – standing water after this time may indicate a drainage problem.
- Minimal vegetation along the bottom of the detention cell indicates the cell needs to be re-planted with more appropriate vegetation.
- Overgrown vegetation in the detention cell indicates mowing is required.
- Large trees or other woody vegetation in the cell or on the side slopes indicates that vegetation removal may be required to maintain detention cell function.
- Noticeable litter indicates that trash pickup and removal is necessary.
- Noticeable sediment buildup in the detention cell may indicate sediment removal is needed to maintain the cell function.
- Erosion on side slopes indicates bank repair is needed.
  - Cracks, leaks, or breakage in inlet or outlet structures indicates repair is required.

#### SEDIMENT FOREBAYS

- Noticeable sediment buildup in the forebay indicates sediment removal is needed to maintain the forebay function and prevent sediment from moving downstream.
- Noticeable litter indicates that trash pickup and removal is necessary.
- Erosion on side slopes indicates bank repair is needed.
- Cracks, leaks, or breakage in inlet or outlet structures indicates repair is required.

#### WETLANDS

- Noticeable sediment buildup in the forebay indicates sediment removal is needed.
- Noticeable litter indicates that trash pickup and removal is necessary.
- Presence of invasive vegetation, such as weeds, indicates vegetation removal and control is required.
- A large area without vegetation indicates that additional wetland plants need to be introduced to the site to re-vegetate the areas.
- Dead vegetation, foul odors, or foaming in the water could indicate pollutants are entering the wetland.
- An oily sheen on wetland water may indicate illegal dumping.
- Heavy algae in wetland water may indicate nutrients from pet waste or lawn fertilizers are entering the wetland.

\* For problems of sediment washing down from upstream construction contact the Transportation and Utilities Department, Watershed Management Division. For problems of pollution, contact the Health Department, Environmental Health Division. See Appendix A, Agency Resource List for more information.



ENERAL MAINTENANCE INFORMATION

Generally, stormwater storage facilities are very effective for stormwater management and, when routinely maintained, pose relatively few management problems. Some maintenance concerns typical of stormwater storage facilities are:

- weed growth
- · grass and vegetation maintenance
- sediment control
- bank deterioration
- standing water or soggy surfaces
- mosquito control
- blockage of outlet structures
- litter accumulation
- · maintenance of fences and perimeter plantings

Most maintenance concerns can be reduced or eliminated by doing simple tasks and monitoring your greenspace area. By performing short-term routine maintenance, you will save time and money in the long run. The following are general maintenance practices for most storage facilities and waterways:

- Trash and debris should be picked up regularly, especially after a rain event and in the spring when vegetation is short making it easier to find trash. Picking up before mowing in the fall is also advised. The inlet and outlet areas of ponds should be carefully monitored as they are common sites for trash and debris to collect.
- If low spots develop in storage facilities, fill them in so as not to provide habitat for mosquitoes.
- In general, trees and shrubs should not be planted or allowed to grow in retention or detention cells except as shown on the approved site plan for the subdivision. If they are not part of the design of these structures, trees have the potential to lead to flow blockage and loss of flood storage. Generally, vegetation over 18 inches should be removed unless it is part of the planned landscape.
- If erosion is occurring on streambank or slope of a stormwater facility, erosion control measures may be needed to stabilize the area.
- Proper disposal of pet and yard wastes, using minimal fertilizers, and use of non-chemical pest control practices will help maintain the proper balance of your greenspace.
- Maintain vegetation along waterways to increase the infiltration of rainwater, stabilize the soil, and to slow the flow of water during heavy rainfall to minimize downstream flooding.
- If turf in a swale becomes damaged it must be re-planted with grass and stabilized with some sort of erosion control until the grass is fully mature. During periods of extended drought, grass may need to be irrigated to keep it healthy and vigorous, or it may not be healthy enough to withstand erosion when the rain returns. If conditions change and there is a frequent or constant flow of water through the swale, some sort of additional stabilization may be needed.

It is important to note that simple maintenance practices can, and should, be performed by the members of your association. You may, however, wish to consult a professional or one of the resources listed in Appendix A for advice on more complex maintenance practices and problems.

PROBLEM	EFFECTS	SOLUTIONS
Excessive Grass & Vegetation Growth	Increased weed growth Increased bank erosion Decreased infiltration of water Decreased soil stabilization Increased flooding of banks	Mow prairies yearly, varying mowing schedule each year Mow other areas frequently Plant vegetation appropriate for each type of storage facility (see appendix C) Remove weedy or woody vegetation on stream banks
Shoreline or streambank erosion	Increased sediment into storage facilities Increased risk of flooding nearby structures	Install boulders or rip-rap on pond shoreline Seek professional guidance for streambank erosion Plant vegetation appropriate for shoreline stabilization (see appendix C) Remove debris and trash frequently, especially after a rain event
Mosquito Population	Increased annoyance to residents Increased risk of spreading Mosquito-borne diseases	Eliminate low spots with standing water on your property Maintain a healthy balance of plants, fish and other mosquito predators in ponds Consult the Health Department for advice
Litter Accumulation	Blockage of inlet or outlet structures Streambank erosion	Remove debris and trash frequently, especially after a rain event Cut back over grown brush
Geese Population	Increased waste Upset nutrient balance in ponds Increased algae growth	Do not feed geese Allow grasses to grow naturally Minimize mowing on the banks Plant "rough" grasses like buffalo grass
Mowing & Yard Waste Disposal	Build-up of organic material in storage facilities	Dispose of yard waste at city landfill or spread over a vegetated area Reduce the use of pesticides and phosphorous fertilizers
Pollutant Infiltration	Upset chemical and biological balance of wetland	Dispose of pet waste properly Reduce the use of pesticides and phosphorous fertilizers
Development of Gullies or Low Areas	Standing Water or soggy surfaces Increased mosquito populations Streambank erosion Decreased quality of turf or plant material	Fill low spots or areas of standing with dirt or vegetation Replant with grass and stabilize with erosion control device until grass is fully mature
Sedimentation	Reduces capacity of stormwater facility Pollutes stormwater and passes pollutants through waterways Allows build up of organic materials	Remove sediments that accumulate in forebays, drainage structures or stormwater facilities Remove debris and trash frequently, especially after a rain event Dispose of pet waste properly Consult a professional to install sediment trapping devices
10	Effects erosion downstream	



After you have prioritized the benefits and challenges you can begin to write goals. Goals are statements that reflect the desired future conditions. It is best to keep goals simple and few when you are starting out. As time goes on your goals should be reviewed and adjusted according to changing conditions and desires.

#### **EXAMPLE GOALS**

"The neighborhood greenspace conveys stormwater in a way that preserves the greenspace and has minimal impact on downstream properties."

"The neighborhood greenspace is a safe and secure area for neighborhood children and residents to play in and pass through."

"Maintenance costs are kept to a minimum and neighborhood volunteers assume many of the maintenance responsibilities."

After setting goals, begin to assign objectives that describe what your goals intend in measurable and achievable terms. If your goal is to keep the area aesthetically pleasing, objectives could include removing trash twice per year, installing trash cans at each of the three entrances to the greenspace, and removing tree limbs and other debris within one week of a storm event. Notice that in each objective, there is mention of a quantity of some sort. This is part of the measurable nature of objectives.

#### **CHOOSING AND IMPLEMENTING ACTIONS**

Actions vary according to the talents and resources available to you. Take each of your objectives and discuss the steps required to achieve it, including who should be responsible, potential cost involved, and a timeline to finish the objective.

#### MONITORING

There will be some areas in your greenspace that will require regular monitoring. Drainageways should be monitored regularly for signs of erosion. Any ponds or catch basins should also be monitored for siltation or trash. Vegetation should be assessed to identify weeds, and to determine whether it is displaying healthy growth or possibly becoming overgrown. It is almost universally true that the sooner a problem is identified the more successful and the less expensive corrective actions will be. In most cases, monitoring will require a minimal time commitment if responsibilities are delegated broadly. Keeping good monitoring records will help you identify areas requiring further actions.



PPENDIX A: LOCAL AGENCY CONTACT LIST

> Lincoln Lancaster County Health Department 3140 N Street Lincoln, NE 68510 **Animal Control** - (402) 441-7900 (dogs or house cats only) **Emergency response** - hazardous spills - (402) 441-8000 **Disease Control** - mosquitoes - (402) 441-8053 **Illegal Dumping** - (402) 441-8022 **Keep Lincoln and Lancaster County Beautiful** - (402) 441-8035

Transportation & Utilities – Maintenance 949 West Bond Street, Suite 200 Lincoln, NE 68521 **Stormwater emergency** - related to City storm drain system - (402) 441-7701

Transportation and Utilities - Watershed Management 949 West Bond Street, Suite 200 Lincoln, NE 68521 General Stormwater questions - (402) 405-2372

Lower Platte South Natural Resources District 3125 Portia Street Lincoln, NE 68501-3581 (402) 476-2729

Lincoln Lancaster County Planning Department 555 S. 10th Street Suite 213 Lincoln, NE 68508 (402) 441-7491

Lincoln Parks and Recreation 2740 A Street Lincoln, NE 68502 (402) 441-7847

Noxious Weed Control Authority 444 Cherrycreek Road, Building B Lincoln, NE 68528 (402) 441-7817

Dept. of Horticulture University of Nebraska - Lincoln 202 Keim Hall Lincoln, NE 68583-0915 (402) 472-2811 Lancaster County Extension Office 444 Cherrycreek Road Lincoln, NE 68528-1507 (402) 441-7180

## **REQUEST REMOVAL OF NATIVE WILD ANIMALS** (not dogs or house cats)

Wildlife Rescue Team, Inc. PO Box 80127 Lincoln, NE 68501 (402) 473-1951



## PPENDIX B: WORLD WIDE WEB RESOURCES

#### watershed.lincoln.ne.gov

City of Lincoln Public Works and Utilities, Watershed Management Division. Contains information on various watershed planning activities, floodplain issues, stormwater issues, and other information.

#### www.lpsnrd.org

Lower Platte South Natural Resources District. Information on wetlands, prairies, riparian areas, as well as contacts and links to other informative sites.

#### www.extension.unl.edu/

University of Nebraska Cooperative Extension. Information on yard and garden issues, natural resources, grasslands, and other topics, as well as links to many resources.

#### www.mass.gov/eea/agencies/dfg/der/technical-assistance/streamteams.html

Massachusetts Riverways Adopt-a-Stream Program; Massachusetts Department of Fish and Game. This is the Leader's Guide to the Shoreline Survey process used in the Adopta-Stream program. It contains sample documents, survey forms, and information on what can be expected to be seen in a healthy stream.

#### www.epa.gov/owow/wetlands/restore/

River Corridor and Wetland Restoration information from the Environmental Protection Agency. A good deal of information on restoration principles, projects that have been undertaken, and links to other sites.

#### water.usgs.gov/nwsum/WSP2425/

US Geological Survey National Water Summary on Wetland Resources. This website has technical information, wetland management and resources, and restoration and creation of wetlands.

#### www.habitat.noaa.gov/pdf/pub\_wetlands\_restore\_guide.pdf

National Oceanic and Atmospheric Administration, Environmental Protection Agency, Army Corps of Engineers, Fish and Wildlife Service, and Natural Resources Conservation Service. This guidebook contains information for the public on project planning, implementation and monitoring wetlands as well as resources available.

#### www.npwrc.usgs.gov

US Geological Survey Northern Prairie Wildlife Research Center. This site has a good deal of information on the restoration and creation of natural channels.

#### www.nap.edu/books/0309082951/html/

Riparian Areas: Functions and Strategies for Management. This National Academies Press book-on-line is a comprehensive guide to the establishment and maintenance of stream and river habitats.

#### www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/

US Department of Agriculture Natural Resources Conservation Service. This is an overview of information available on managing waterways including management strategies and resources



The following plant list comprises general information that is provided as a starting point for your association. Feel free to consult the resources listed in Appendices A and B, or other knowledgeable sources for additional information or plant mixes appropriate to particular areas of your greenspace. The plants identified below are listed with reference to their appropriateness in three generalized areas, ranging from most wet to most dry. These areas are: 1) Channel/Wet Basin Areas, 2) Floodprone Areas, 3) and Upland Areas.



1) Channel/Wet Basin Area. These are areas where soil is seasonally saturated with water. This could be along a stream, at the bottom of a wet basin, or within a wetland area.

2) Floodprone Area. These are bottomlands (low-lying areas) or (sloping areas draining from uplands) along waterways or wet basins which are not generally saturated with water but experience occasional flooding.

3) Upland Area. These are higher areas away from waterways and wetlands that are not subject to flooding or inundation of water.

This is a generalized list, and other species or specific mixes not listed here may be appropriate for your greenspace area. It is important to select plants based on the conditions specific to your site, including location, moisture, and sun or shade. It is also critical to avoid the use of aggressive and invasive species. Other important considerations are soil stabilization, wildlife habitat, aesthetics, maintenance, and the requirements of the site plan approved with your subdivision.



#### **ORNAMENTAL GRASSES**

#### **COMMON NAME:** Maidengrass Species

BOTANICAL NAME: Miscanthus sinesis species LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 4-7 feet FLOWER COLOR: copper - silver BLOOMING SEASON: August-February FRUIT COLOR: n/a

#### **COMMON NAME:** Little Bluestem

BOTANICAL NAME: Schizachyrium scoparium LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: part sun HEIGHT: 2-4 feet FLOWER COLOR: tan BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### **COMMON NAME:** Switchgrass Species

BOTANICAL NAME: Panicum virgatum species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 3-6 feet FLOWER COLOR: pink BLOOMING SEASON: July-February

FRUIT COLOR: n/a

#### **COMMON NAME:** Feather Reed Grass

BOTANICAL NAME: Feather Reed Grass LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 3-5 feet FLOWER COLOR: pinkish green BLOOMING SEASON: July - February FRUIT COLOR: n/a

#### **FLOWERS & FORBS**

#### **COMMON NAME: Swamp Milkweed**

BOTANICAL NAME: Asclepias incarnata LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: no EXPOSURE: full sun HEIGHT: 4-5 feet FLOWER COLOR: pinkish-rose BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### **COMMON NAME:** Showy Milkweed

BOTANICAL NAME: Asclepias speciosa LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 18"-36" FLOWER COLOR: rose BLOOMING SEASON: June-July FRUIT COLOR: n/a

#### **COMMON NAME:** Butterfly Milkweed

BOTANICAL NAME: Asclepias tuberosa LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: full sun HEIGHT: 12"-30" FLOWER COLOR: orange BLOOMING SEASON: June-July FRUIT COLOR: n/a

#### **COMMON NAME:** Aster species

BOTANICAL NAME: Aster species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 18"-36" FLOWER COLOR: blue, purple, white, pink BLOOMING SEASON: September-October FRUIT COLOR: n/a

#### COMMON NAME: Canada Milkvetch

BOTANICAL NAME: Astragalus canadensis LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 1-4 feet FLOWER COLOR: cream BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### COMMON NAME: Wild Blue Indigo

BOTANICAL NAME: Baptisia australis LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: up to 30" FLOWER COLOR: blue - purple BLOOMING SEASON: May-June FRUIT COLOR: n/a

#### **COMMON NAME:** Purple Poppymallow

BOTANICAL NAME: Callirhoe involucrata LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 12"-18" FLOWER COLOR: intense rose BLOOMING SEASON: May-August FRUIT COLOR: n/a

#### **COMMON NAME:** Partridge Pea

BOTANICAL NAME: Chaemaecrista fasciculata LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: I-3 feet FLOWER COLOR: yellow BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### **COMMON NAME: White Prairie Clover**

BOTANICAL NAME: Dalea candida LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 1-3 feet FLOWER COLOR: white BLOOMING SEASON: June-July FRUIT COLOR: n/a

#### **COMMON NAME:** Purple Prairie Clover

BOTANICAL NAME: Dalea purpurea LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 1-3 feet FLOWER COLOR: red-violet BLOOMING SEASON: June-July FRUIT COLOR: n/a

#### **COMMON NAME: Black Sampson**

BOTANICAL NAME: Echinacea augustifolia LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 10"-20" FLOWER COLOR: pink BLOOMING SEASON: June-July FRUIT COLOR: n/a

#### **COMMON NAME:** Pale Purple Coneflower

BOTANICAL NAME: Echinacea pallida LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: up to 3 feet FLOWER COLOR: pink - purple BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### **COMMON NAME:** Purple Coneflower

BOTANICAL NAME: Echinacea species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: up to 3 feet FLOWER COLOR: pink, yellow, orange, white BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### **COMMON NAME:** Daisy Fleabane

BOTANICAL NAME: Erigeron stigosus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 1-3 feet FLOWER COLOR: white BLOOMING SEASON: May-August FRUIT COLOR: n/a

#### **COMMON NAME:** Common Boneset

BOTANICAL NAME: Eupatorium perfollatum LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: no EXPOSURE: full sun HEIGHT: 2-5 feet FLOWER COLOR: creamy-white BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### COMMON NAME: Purple Joe Pyeweed

BOTANICAL NAME: Eupatorium purpureum LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: no EXPOSURE: full sun - part shade HEIGHT: 3 feet FLOWER COLOR: n/a BLOOMING SEASON: August-September FRUIT COLOR: n/a

#### COMMON NAME: Joe Pye Weed

BOTANICAL NAME: Eupatorium species LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 48"-60" FLOWER COLOR: white - pink BLOOMING SEASON: August-September FRUIT COLOR: n/a

#### **COMMON NAME: Blanket Flower**

BOTANICAL NAME: Gaillardia aristata LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 18"-24" FLOWER COLOR: yellow - orange BLOOMING SEASON: May-June FRUIT COLOR: n/a

#### **COMMON NAME:** Prairie Smoke

BOTANICAL NAME: Geum triflorum LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: up to 3 feet FLOWER COLOR: pink BLOOMING SEASON: April FRUIT COLOR: n/a

#### **COMMON NAME:** Maximilian Sunflower

BOTANICAL NAME: Helianthus maximilani LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 3 - 6 feet FLOWER COLOR: yellow BLOOMING SEASON: August-September FRUIT COLOR: n/a

#### **COMMON NAME:** Sneezeweed

BOTANICAL NAME: Helenium autumnale LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: no EXPOSURE: full sun - part shade HEIGHT: 3 - 5 feet FLOWER COLOR: yellow BLOOMING SEASON: August-November FRUIT COLOR: n/a

#### **COMMON NAME:** False Sunflower

BOTANICAL NAME: Heliopsis helianthoides LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 3-6 feet FLOWER COLOR: yellow BLOOMING SEASON: June-September FRUIT COLOR: n/a

#### **COMMON NAME:** Daylily

BOTANICAL NAME: Hemerocallis LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 12" - 24" FLOWER COLOR: pink, orange, yellow, red, white, purple BLOOMING SEASON: June - September FRUIT COLOR: n/a

#### **COMMON NAME:** Hosta

BOTANICAL NAME: Hosta species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 10" - 30" FLOWER COLOR: white - purple BLOOMING SEASON: June-September FRUIT COLOR: n/a

#### **COMMON NAME:** Jewelweed

BOTANICAL NAME: Impatiens capensis LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: no EXPOSURE: part shade - full shade HEIGHT: 2 - 3 feet FLOWER COLOR: yellow - orange BLOOMING SEASON: June-July FRUIT COLOR: n/a

#### **COMMON NAME:** Flag Iris

BOTANICAL NAME: Iris virginica LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: up to 3 feet FLOWER COLOR: blue - purple, yellow BLOOMING SEASON: May-June FRUIT COLOR: n/a

#### **COMMON NAME:** Rough Gayfeather

BOTANICAL NAME: Liatris aspera LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: full sun HEIGHT: up to 3 feet FLOWER COLOR: red - violet BLOOMING SEASON: August-September FRUIT COLOR: n/a

#### **COMMON NAME:** Dotted Gayfeather

BOTANICAL NAME: Liatris punctata LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: full sun HEIGHT: 12" - 24" FLOWER COLOR: pink BLOOMING SEASON: August-September FRUIT COLOR: n/a

#### **COMMON NAME:** Thickspike Gayfeather

BOTANICAL NAME: Liatris pycnostachya LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: no EXPOSURE: full sun HEIGHT: 2 - 5 feet FLOWER COLOR: pink BLOOMING SEASON: July-August FRUIT COLOR: n/a

#### **COMMON NAME:** Gayfeather

BOTANICAL NAME: Liatris spicata LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 24" - 48" FLOWER COLOR: red, purple, white BLOOMING SEASON: June-September FRUIT COLOR: n/a

#### **COMMON NAME: Wild Blue Flax**

BOTANICAL NAME: Linum lewisii LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 30" FLOWER COLOR: blue BLOOMING SEASON: May-June FRUIT COLOR: n/a

#### **COMMON NAME:** Lobella species

BOTANICAL NAME: Lobella species LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 24" - 48" FLOWER COLOR: blue - red BLOOMING SEASON: May-June FRUIT COLOR: n/a

#### **COMMON NAME:** Leadplant

BOTANICAL NAME: Amorpha canescens LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: I-3 feet FLOWER COLOR: blue BLOOMING SEASON: June-August FRUIT COLOR: n/a

#### **COMMON NAME:** False Indigo

BOTANICAL NAME: Amorpha fruticosa LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: unknown FLOWER COLOR: blue BLOOMING SEASON: May FRUIT COLOR: n/a

#### **COMMON NAME:** Mexican Hat

BOTANICAL NAME: Ratibida Columifera LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 24"-30" FLOWER COLOR: yellow BLOOMING SEASON: May-September FRUIT COLOR: n/a

#### SHRUBS

#### **COMMON NAME:** Serviceberry

BOTANICAL NAME: Amelanchier LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 6-10 feet FLOWER COLOR: white BLOOMING SEASON: April-May FRUIT COLOR: red, dark purple

#### **COMMON NAME: Black Chokeberry**

BOTANICAL NAME: Aronia melanocarpa LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 6 - 8 feet FLOWER COLOR: white BLOOMING SEASON: April-May FRUIT COLOR: black

#### COMMON NAME: Fringed Sage

BOTANICAL NAME: Artemisia frigida LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 2 feet FLOWER COLOR: yellow BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### **COMMON NAME:** Siberian Peashrub

BOTANICAL NAME: Caragana arborescens LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 8 - 10 feet FLOWER COLOR: yellow BLOOMING SEASON: June FRUIT COLOR: n/a

#### **COMMON NAME:** Buttonbush

BOTANICAL NAME: Cephianthus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 8-10 feet FLOWER COLOR: white BLOOMING SEASON: June FRUIT COLOR: brown

#### **COMMON NAME:** Gray Dogwood

BOTANICAL NAME: Cornus racemosa LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 6 - 8 feet FLOWER COLOR: white BLOOMING SEASON: May-June FRUIT COLOR: white

#### **COMMON NAME:** Redosier Dogwood

BOTANICAL NAME: Cornus sericea LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 8 - 10 feet FLOWER COLOR: white BLOOMING SEASON: May-June FRUIT COLOR: white

#### COMMON NAME: Yellow Twig Dogwood

BOTANICAL NAME: Cornus Sericea 'Flaviramea' LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 6 - 8 feet FLOWER COLOR: white BLOOMING SEASON: Spring FRUIT COLOR: white

#### **COMMON NAME: Hazelnut**

BOTANICAL NAME: Corylus americana LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 6 - 8 feet FLOWER COLOR: yellow, brown BLOOMING SEASON: May-June FRUIT COLOR: brown nuts

#### **COMMON NAME:** Cotoneaster

BOTANICAL NAME: Cotoneaster species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 2-10 feet FLOWER COLOR: pink BLOOMING SEASON: May-June FRUIT COLOR: red, black

#### **COMMON NAME:** Burning Bush

BOTANICAL NAME: Euonymus alatus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 8 - 14 feet FLOWER COLOR: green, yellow BLOOMING SEASON: May FRUIT COLOR: n/a

#### **COMMON NAME:** Forsythia

BOTANICAL NAME: Forsythia species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 2-8 feet FLOWER COLOR: yellow BLOOMING SEASON: April FRUIT COLOR: n/a

#### **COMMON NAME:** Spreading Juniper

BOTANICAL NAME: Juniperus species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun HEIGHT: 4 - 7 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: varies

#### **COMMON NAME:** Honeysuckle

BOTANICAL NAME: Lonicera species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 5 - 10 feet FLOWER COLOR: yellow, white, purple BLOOMING SEASON: May-June FRUIT COLOR: n/a

#### **COMMON NAME: Wild Plum**

BOTANICAL NAME: Prunus americana LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: variable FLOWER COLOR: white BLOOMING SEASON: April - May FRUIT COLOR: purple

#### **COMMON NAME:** Golden Currant

BOTANICAL NAME: Ribes aureum LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 4 - 6 feet FLOWER COLOR: yellow BLOOMING SEASON: May - June FRUIT COLOR: black

#### **COMMON NAME:** Buffalo Currant

BOTANICAL NAME: Ribes oboratum LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 3 - 6 feet FLOWER COLOR: green, pink BLOOMING SEASON: April - May FRUIT COLOR: black

#### **COMMON NAME:** Fragrant Sumac

BOTANICAL NAME: Rhus aromatica LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 4 - 8 feet FLOWER COLOR: yellow BLOOMING SEASON: April - May FRUIT COLOR: n/a

#### COMMON NAME: Smooth Sumac

BOTANICAL NAME: Rhus glabra LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 10 - 15 feet FLOWER COLOR: yellow BLOOMING SEASON: April - May FRUIT COLOR: n/a

#### COMMON NAME: Skunkbush Sumac

BOTANICAL NAME: Rhus trilobata LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 4 - 8 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### **COMMON NAME:** Staghorn Sumac

BOTANICAL NAME: Rhus typhina LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: full sun - part shade HEIGHT: 10 - 25 feet FLOWER COLOR: yellow BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### **COMMON NAME: Elderberry**

BOTANICAL NAME: Sambucus canadensis LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: no EXPOSURE: Full Sun - Part Shade HEIGHT: 4 - 8 feet FLOWER COLOR: pale pink BLOOMING SEASON: May FRUIT COLOR: purple, black

#### **COMMON NAME: Silver Buffaloberry**

BOTANICAL NAME: Shepherdia argentea LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Part Shade HEIGHT: 10 - 12 feet FLOWER COLOR: yellow BLOOMING SEASON: May FRUIT COLOR: red, yellow

#### **COMMON NAME:** Common Snowberry

BOTANICAL NAME: Symphoricarpos albus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Full Shade HEIGHT: 3 - 4 feet FLOWER COLOR: white BLOOMING SEASON: May-June FRUIT COLOR: white

#### **COMMON NAME: Western Snowberry**

BOTANICAL NAME: Symphoricarpos occidentalis LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Full Shade HEIGHT: 3 - 4 feet FLOWER COLOR: white BLOOMING SEASON: May-June FRUIT COLOR: white

#### **COMMON NAME:** Coralberry

BOTANICAL NAME: Symphoricarpos orbiculatus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: no EXPOSURE: Full Sun - Full Shade HEIGHT: 4-5 feet FLOWER COLOR: pale pink BLOOMING SEASON: May-June FRUIT COLOR: pink, red

#### **COMMON NAME:** Lilac

BOTANICAL NAME: Syrina species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Part Shade HEIGHT: 6 - 10 feet FLOWER COLOR: white, purple BLOOMING SEASON: April-May FRUIT COLOR: n/a

#### **COMMON NAME: Viburnum**

BOTANICAL NAME: Viburnum species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Full Shade HEIGHT: variable FLOWER COLOR: white BLOOMING SEASON: April-May FRUIT COLOR: red, black

#### COMMON NAME: Sumac 'Gro-low'

BOTANICAL NAME: Rhus aromatica LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Part Shade HEIGHT: 18 - 24 inches FLOWER COLOR: yellow BLOOMING SEASON: April-May FRUIT COLOR: red

#### TREES

#### Pine

#### COMMON NAME: Colorado Spruce (blue or green)

BOTANICAL NAME: Picea pungens LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Evergreen HEIGHT: 40-60 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: brown

#### **COMMON NAME:** Concolor Fir

BOTANICAL NAME: Abies concolor LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: Full Sun - Part Shade TREE TYPE (Evergreen or Deciduous): Evergreen HEIGHT: 30 - 50 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: brown

#### **COMMON NAME:** Eastern White Pine

BOTANICAL NAME: Pinus strobus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Evergreen HEIGHT: 40 - 60 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: yellow-brown cones

#### COMMON NAME: Limber Pine

BOTANICAL NAME: Pinus flexilis LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Evergreen HEIGHT: 40 - 50 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: yellow-brown cones

#### **COMMON NAME:** Upright Juniper

(named varieties - eg., Taylor, Prairie Pillar, Spartan) BOTANICAL NAME: Juniperus virginiana LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Evergreen HEIGHT: 10 - 20 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: blue, green

#### TREES

Understory

#### **COMMON NAME:** Amur Maple

BOTANICAL NAME: Acer ginnala LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full sun - part shade TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 10 - 15 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### **COMMON NAME:** Crabapple

BOTANICAL NAME: Malus species LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 10 - 15 feet FLOWER COLOR: pink, red BLOOMING SEASON: spring FRUIT COLOR: red

#### COMMON NAME: Serviceberry (Tree Form)

BOTANICAL NAME: Amelanchier LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Part Shade TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 20 - 25 feet FLOWER COLOR: white BLOOMING SEASON: early spring FRUIT COLOR: magenta to purple

#### **COMMON NAME: Tatarian Maple**

BOTANICAL NAME: Acer tataricum LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun - Part Shade TREE TYPE (Evergreen or Deciduous: Deciduous HEIGHT: 15-20 feet FLOWER COLOR: off-white BLOOMING SEASON: May-June FRUIT COLOR: red to brown

#### TREES

Overstory

#### **COMMON NAME:** American Elm

(named varieties - e.g., Valley Forge, New Harmony, Jefferson) BOTANICAL NAME: Ulmus americana LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 50 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### **COMMON NAME:** American Linden

BOTANICAL NAME: Tilia american LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 50 - 70 feet FLOWER COLOR: cream BLOOMING SEASON: n/a FRUIT COLOR: nut-like fruit

#### COMMON NAME: Autumn Blaze Maple

BOTANICAL NAME: Acer x ruburm 'Autumn Blaze' LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 50 feet FLOWER COLOR: N/A BLOOMING SEASON: N/A FRUIT COLOR: N/A

#### **COMMON NAME: Baldcypress**

BOTANICAL NAME: Taxodium distichum LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 50 feet FLOWER COLOR: brown BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### COMMON NAME: Black Locust

BOTANICAL NAME: Robinia pseudoacacia LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: white, pink BLOOMING SEASON: spring FRUIT COLOR: brown fruit pods

#### COMMON NAME: Black Oak

BOTANICAL NAME: Quercus velutina LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: green BLOOMING SEASON: n/a FRUIT COLOR: acorns

#### **COMMON NAME: Bloodgood Sycamore**

BOTANICAL NAME: Platanus occidentalis 'Bloodgood' LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 50 - 70 feet FLOWER COLOR: red BLOOMING SEASON: n/a FRUIT COLOR: globose fruit

#### COMMON NAME: Bur Oak

BOTANICAL NAME: Quercus macrocarpa LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: green BLOOMING SEASON: n/a FRUIT COLOR: acorns

#### **COMMON NAME:** Catalpa

BOTANICAL NAME: Catalpa species LOCATION Channel/Wet Basin Area: no Floodprone Area: no Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 50 feet FLOWER COLOR: pink, white BLOOMING SEASON: mid-late summer FRUIT COLOR: brown

#### **COMMON NAME:** Chinkapin Oak

BOTANICAL NAME: Quercus muhlenbergii LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: green BLOOMING SEASON: n/a FRUIT COLOR: acorns

#### **COMMON NAME:** Common Hackberry

BOTANICAL NAME: Celtis occidentalis LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 50 - 75 feet FLOWER COLOR: green BLOOMING SEASON: mid-late spring FRUIT COLOR: green

#### **COMMON NAME:** Cottonless Cottonwood

BOTANICAL NAME: Populus deltoides (named varieties) LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 70 - 90 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: n/a

#### COMMON NAME: Kentucky Coffee Tree

BOTANICAL NAME: Gymnocladus dioicus LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 50 feet FLOWER COLOR: N/A BLOOMING SEASON: N/A FRUIT COLOR: seed pods

#### COMMON NAME: Northern Red Oak

BOTANICAL NAME: Quercus rubra LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: green BLOOMING SEASON: n/a FRUIT COLOR: acorns

#### COMMON NAME: Swamp White Oak

BOTANICAL NAME: Quercus bicolor LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: green

BLOOMING SEASON: n/a

FRUIT COLOR: acorns

#### **COMMON NAME:** Thornless Honeylocust

BOTANICAL NAME: Gleditsia triacanthos var. inevmis LOCATION Channel/Wet Basin Area: ? Floodprone Area: ? Upland Area: ? EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: yellow BLOOMING SEASON: May-June FRUIT COLOR: brown

#### **COMMON NAME: White Oak**

BOTANICAL NAME: Quercus alba LOCATION Channel/Wet Basin Area: no Floodprone Area: yes Upland Area: yes EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 40 - 60 feet FLOWER COLOR: green BLOOMING SEASON: spring FRUIT COLOR: acorns

#### **COMMON NAME: Willow**

BOTANICAL NAME: Salix species LOCATION Channel/Wet Basin Area: yes Floodprone Area: yes Upland Area: no EXPOSURE: Full Sun TREE TYPE (Evergreen or Deciduous): Deciduous HEIGHT: 20 - 60 feet FLOWER COLOR: n/a BLOOMING SEASON: n/a FRUIT COLOR: n/a