

**SECTION 47-15G THE CEDAR CREEK, SUGAR CREEK, JACKSON CREEK, AND JACKSON
BRANCH WATERSHED PROTECTION AREAS**

* Ordinance #15820; 03/06/07

47-15G.1 SHORT TITLE

This ordinance shall be known and may be cited as the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Ordinance.

47-15G.2 PURPOSE AND INTENT

It is the purpose and intent of the Cedar Creek, Sugar Creek, Jackson Creek and Jackson Branch Watershed Protection Ordinance to promote the health, safety and general welfare of persons residing near the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch watersheds and associated drainage areas and wetlands by providing for the protection, preservation, proper maintenance, and use of the Cedar Creek, Sugar Creek, Jackson Creek and Jackson Branch (collectively referred to herein as "Cedar Creek, Sugar Creek, Jackson Creek and Jackson Branch"). The ordinance is more specifically adopted:

- A. To prevent flood damage by preserving the storm and floodwater storage capacity of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch;
- B. To maintain the normal hydrologic balance of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch by storing and providing for infiltration of wet-period runoff in floodplains and wetlands, and releasing it slowly to the stream to maintain in-stream flow;
- C. To manage stormwater runoff and maintain natural runoff conveyance systems, and minimize the need for major storm sewer construction and drainageway modification;
- D. To improve water quality, both by filtering and storing sediments and attached pollutants, nutrients, and organic compounds before they drain into Cedar Creek and Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch and by maintaining the natural pollutant-assimilating capabilities of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch;
- E. To protect shorelines and stream banks from soil erosion, using natural means and materials wherever possible;
- F. To protect fish spawning, breeding, nursery and feeding grounds;
- G. To protect wildlife habitat;
- H. To preserve areas of special recreational, scenic, or scientific interest, including natural areas;
- I. To maintain and enhance the aesthetic qualities of developing areas; and
- J. To encourage the continued economic growth and high quality of life of the Joliet community which depends in part on an adequate quality of water, a pleasing natural environment, and recreational opportunities.

47-15G.3 DEFINITIONS

- A. "Armoring" is a form of channel modification which involves the placement of materials (concrete, riprap, bulkheads, etc.) within a stream channel or along a shore line to protect property above Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch from erosion and wave damage caused by wave action and stream flow.
- B. "Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Area" shall be the real property lying within one hundred (100) feet of an ordinary high water mark of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch, within twenty-five (25) feet of the upland edge of any wetland within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch watershed or within one hundred (100) feet of the center thread of any tributary to Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch actually located in the 100-year floodplain.
- C. "Bulkhead" means a retaining wall that protects property along Cedar Creek, Sugar Creek, Jackson Creek and Jackson Branch.
- D. "Channel" means that portion of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch lying within its ordinary high water marks.
- E. "Channel modification" or "channelization" means to alter Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch by changing the physical dimension or materials of the channel. Channel modification includes damming, riprapping (or other armoring), widening, deepening, straightening, relocating, lining and significant removal of bottom or woody vegetation. Channel modification does not include the clearing of debris or trash from Cedar Creek, Sugar Creek, Jackson Creek, or Jackson Branch. Channelization is a severe form of channel modification involving a significant change in the channel cross-section and typically involving relocation of the existing channel (e.g. straightening).
- F. "Control structure" means a structure designed to control the rate of stormwater runoff that passes through the structure, given a specific upstream and downstream water surface elevation.
- G. "Culvert" means a structure designed to carry drainage water or small streams below barriers such as roads, driveways, or railway embankments.
- H. "Depressional area" means any area which is lower in elevation on all sides than surrounding properties (i.e. does not drain freely), or whose drainage is severely limited such as by a restrictive culvert. A depressional area will fill with water on occasion when runoff into it exceeds the rate of infiltration into underlying soil or exceeds the discharge through its controlled outlet. Large depressional areas may provide significant stormwater or floodplain storage.
- I. "Development" means the construction, alteration or expansion of a building or structure, the making of improvements to land or an expansion or change in an existing principal land use, the subdivision of land. Agricultural use of land previously used for agricultural purposes does not constitute development. The following activities or uses shall be taken, for the purposes of this ordinance, to constitute development as defined herein:
 - 1. Any change in the intensity of use of land, such as an increase in the number of dwelling units on land, or a material increase in the site coverage of businesses, manufacturing establishments, offices, and dwelling units;

2. The commencement of drilling, except to obtain soil samples, or the commencement of mining, filling, excavation, dredging, grading or other alterations of the topography;
 3. Clearing of land as an adjunct of construction for residential, commercial or industrial use;
 4. Any other activity that might change the direction, height, or velocity of flood or surface waters.
- J. "Erosion" means the general process whereby soils are moved by flowing water or wave action.
- K. "Filtered view" means the maintenance or establishment of woody vegetation of sufficient density to screen developments from Cedar Creek, Sugar Creek, Jackson Creek, or Jackson Branch, to provide for stream bank stabilization and erosion control, to serve as an aid to infiltration of surface runoff, and to provide cover to shade the water. The vegetation need not be so dense as to completely block the view. Filtered view means no clear cutting.
- L. "Flood Plain" shall mean that land typically adjacent to a body of water with ground surface elevations at or below the base flood or the 100-year frequency flood elevation. Flood plains may also include detached Special Flood Hazard Areas, ponding areas, etc. The flood plain is also known as the Special Flood Hazard Area (SFHA). The flood plains are those lands within the jurisdiction of the City that are subject to inundation by the base flood or 100-year frequency flood. The SFHA's of the City are generally identified as such on the Flood Insurance Rate Map of Will County prepared by the Federal Emergency Management Agency (or the U.S. Department of Housing and Urban Development) and dated March 17, 2003. The SFHA's of those parts of unincorporated territory that are within the extraterritorial jurisdiction of the City or that may be annexed into the City are generally identified as such on the Flood Insurance Rate Map prepared for Will County by FEMA and dated March 17, 2003.
- M. "Floodway" means that portion of the floodplain required to store and convey the base flood. The floodway is the regulatory floodway as designated and regulated by the Federal Emergency Management Agency. The remainder of the floodplain which is outside the regulatory floodway is referred to as the flood fringe or floodway fringe.
- N. "Hydraulic characteristics" means the features of a watercourse which determine its water conveyance capacity. These features include but are not limited to: size and configuration of the cross-section of the watercourse and floodway; texture and roughness of materials along the watercourse; alignment of watercourse; gradient of watercourse; amount and type of vegetation within the watercourse; and size, configuration, and other characteristics of structures within the watercourse. In low-lying area the characteristics of the overbank area also determine water conveyance capacity.
- O. "Lot" means an area of land, with defined boundaries, that is designated in official assessor's records as being one parcel.
- P. "Lake or pond" means any inland waterbody, fed by spring or surface water flow.
- Q. "Natural" in reference to watercourses means those stream channels, grassed waterways and swales formed by the existing surface topography of the earth prior to changes made by unnatural causes. A natural stream tends to follow a meandering path; its floodplain is not constrained by levees; the area near the bank has not been cleared, mowed or

cultivated; the stream flows over soil and geologic materials typical of the area with no alteration of the course or cross-section of the stream caused by filling or excavating.

- R. "Ordinary high water mark" (OHWM) means the point on the bank or shore up to which the presence and action of surface water is so continuous so as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristics.
- S. "Qualified professional" means a person trained in one or more of the disciplines of biology, geology, soil science, engineering, or hydrology whose training and experience ensure a competent analysis and assessment of stream, lake, pond and wetland conditions and impacts.
- T. "Registered professional engineer" means a professional engineer registered under the provisions of "The Illinois Professional Engineering Act" and any act amendatory thereof.
- U. "Retention/detention facility" means a facility that provides for storage of storm water runoff and controlled release of this runoff during and after a flood or storm.
- V. "Runoff" means the portion of precipitation on the land that is not absorbed by the soil or plant material and which runs off the land.
- W. "Sedimentation" means the processes that deposit soils, debris, and other materials either on other ground surfaces or in water bodies or watercourses.
- X. "Setback" means the horizontal distance between any portion of a structure or any development activity and the ordinary high water mark of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch measured from the structure's or development's closest point to the ordinary high water mark.
- Y. "Stream" means a body of running water flowing continuously or intermittently in a channel on or below the surface of the ground. Topographic maps of the U.S. Geological Survey are one reference for identifying perennial and intermittent streams. For purposes of this ordinance, the term "stream" does not include storm sewers.
- Z. "Structure" means anything that is constructed, erected or moved to or from any which is located above, on, or below the ground. Temporary recreational facilities including, but not limited to, tents, camper trailers, and recreation vehicles are not considered structures when used less than 180 days per year and located landward of the minimum setback provided as a natural vegetation strip.
- AA. "Vegetation" means all plant growth, especially trees, shrubs, mosses, and grasses.
- BB. "Watercourse" means any river, stream, creek, brook, branch, natural or artificial depression, ponded area, slough, gulch, draw, ditch, channel, conduit, culvert, swale, grass waterway, gully, ravine, wash, or natural or man-made drainageway, which has a definite channel, bed and banks, in or into which stormwater runoff and floodwater flow either regularly or intermittently.
- CC. "Wetland" means those transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water that are designated as a protected wetland by any federal or state agency having competent jurisdiction. Classification of areas as wetlands shall follow the "Classification of Wetlands and Deepwater Habitats of the United States" as published by the U.S. Fish

and Wildlife Service. For the purposes of this Ordinance, a wetland shall not include lands within or adjacent to man-made drainage channels located near roadways.

47-15G.4 SPECIAL USE PERMIT REQUIRED

The development of a lot or parcel containing territory located within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas shall be prohibited except pursuant to a Special Use Permit issued in accordance with this Ordinance. In addition to any other requirement, a Special Use Permit shall not be issued unless the applicant establishes by clear and convincing evidence that:

- A. The development will not detrimentally affect or destroy the natural features of the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas, nor impair its natural functions, but will preserve and incorporate such features into the development's site;
- B. The location of natural features and the site's topography have been reasonably considered in the designing and siting of all physical improvements;
- C. Adequate assurances have been received that the clearing of the site of topsoil, trees, and other natural features will not occur before the commencement of building operations;
- D. The development will not reduce the natural retention storage capacity of Jackson Creek, nor unlawfully increase the magnitude and volume of flooding at other locations; and
- E. The soil and subsoil conditions are suitable for excavation and site preparation, and the drainage is designed to prevent erosion and environmentally deleterious surface run off;
- F. The development will not adversely and materially affect water quality; destroy, damage or disrupt significant habitat area; adversely affect drainage and/or stormwater retention capabilities; adversely affect flood conveyance and storage; lead to unstable earth conditions, create erosion hazards, or be materially detrimental to any other property in the area of the subject property or to the City of Joliet as a whole, including the loss of open space or scenic vistas;
- G. The development will result in the restoration of portions of the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas that were previously disturbed or damaged by development or agricultural land uses.

47-15G.5 SUBMISSIONS

An application for a Special Use Permit shall be accompanied by the following information as specified herein:

General Provisions:

Site Plan	Section 47-15G.8
Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Preservation Plan	Section 47-15G.9
Drainage Control Plan	Section 47-15G.10
Site Grading & Excavation Plan	Section 47-15G.11
Landscape Plan	Section 47-15G.12

Justification for Creek Relocation and Minor Modifications:

Creek Modification/Relocation Plan	Section 47-15G.14
Channel and Bank Armoring	Section 47-15G.15
Culverts	Section 47-15G.16
On-Stream Impoundments	Section 47-15G.17

47-15G.6 REVIEW AND APPROVAL

An application for a Special Use Permit shall be reviewed in accordance with Section 47-5.2 of the Zoning Ordinance, except that the reviewing advisory body shall be the Plan Commission and not the Board of Appeals. In addition, the following procedures shall apply:

- A. The City Manager and the Plan Commission shall review each application for a Special Use Permit to determine its conformance with the provisions of this ordinance. The Mayor and City Council shall (a) approve the permit application by ordinance and if it is found to be in conformance with this ordinance; (b) approve the permit application by ordinance subject to such reasonable conditions as may be necessary to secure substantially the objectives of this ordinance; or (c) disapprove the permit application, indicating the deficiencies. In all cases, the Special Use Permit shall be subject to the condition that the applicant comply with the approved Submissions enumerated in Section 47-15G.5.
- B. A Special Use Permit shall not be issued unless the development has also received all other approvals that may be required by ordinance.

47-15G.7 PERMITTED DEVELOPMENT ACTIVITY IN THE CEDAR CREEK, SUGAR CREEK, JACKSON CREEK, AND JACKSON BRANCH PROTECTION AREAS

A Special Use Permit granted under this Ordinance shall allow the following development activities:

- A. Improvements such as landscaping and plantings, public or private open space, walkways, bike trails, benches, comfort stations, informational displays, directional signs, foot bridges, fences, observation decks, and docks.
- B. The maintenance, repair, replacement, and reconstruction of roads and bridges, gas and electrical transmission facilities and telecommunication lines, poles, and towers, municipal and public infrastructure, including underground water, sanitary sewer and stormwater facilities.
- C. The establishment and development of public and private parks and recreation areas, outdoor education areas, historic natural and scientific areas, game refuges, fish and wildlife improvement projects, wildlife preserves and watercraft launching ramps.
- D. Filling and excavating necessary for the development of public facilities, recreational structures or similar items. The development and maintenance of roads, parking lots and other impervious surfaces necessary for permitted uses are allowed only on a very limited basis, and where no alternate location outside of the setback area is available.
- E. Land surface modification within the minimum setback shall be permitted for the development of stormwater drainage swales between the developed area of the site (including a stormwater detention facility on the site) and Cedar Creek, Sugar Creek,

Jackson Creek and Jackson Branch. Detention basins within the setback are generally discouraged, unless it can be shown that resultant modifications will not impair water quality, habitat, or flood storage functions.

- F. Filling or excavating within wetlands is not permitted except to install piers for the limited development of walkways and observation decks. Walkways and observation decks should avoid high quality wetland areas, and should not adversely affect natural areas designated in the Illinois Natural Areas Inventory or the habitat of rare or endangered species.
- G. Other development activities specifically authorized in the Special Use Permit.

47-15G.8 SITE PLAN

A Site Plan shall be prepared by the applicant and submitted to the City Manager for any proposed development of a lot or parcel containing territory located within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas. The Site Plan must indicate:

- A. Dimension and area of parcel, showing also the vicinity of the site in sufficient detail to enable easy location in the field of the site for which the Special Use Permit is sought, and including the boundary line, underlying zoning, a legend, a scale, and a north arrow;
- B. Location of any existing and proposed structures;
- C. Location of existing or proposed on-site sewage systems and water supply systems;
- D. Location of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch and its ordinary high water mark;
- E. Location and landward limit of all wetlands;
- F. Location of setback lines established by this ordinance;
- G. Location of the regulatory floodway;
- H. Location of existing or future roads;
- I. Depiction of areas proposed for alterations;
- J. Cross-sections and calculations indicating any changes in flood storage volumes;
- K. Such other information as reasonably requested by the City Manager.

The applicant shall demonstrate that the proposed development activity will not endanger health and safety, including danger from the obstruction or diversion of flood flow. The applicant shall also demonstrate that the proposed development activity will not substantially reduce natural floodwater storage capacity, unnecessarily destroy or impair habitat for aquatic or other flora and fauna, adversely affect water quality or ground water resources, increase stormwater runoff velocity so that water levels on other lands are substantially raised or the danger from flooding unlawfully increased, or adversely impact any other natural stream, floodplain, or wetland functions, and is otherwise consistent with the intent of this ordinance.

A Site Plan shall not be required if no portion of the lot or parcel containing territory located within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas is within one hundred feet of the OHWM of Cedar Creek, Sugar Creek, Jackson Creek, and

Jackson Branch or within one hundred feet of the center thread of any tributary of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch actually located within the one hundred year floodplain.

47-15G.9 CEDAR CREEK, SUGAR CREEK, JACKSON CREEK, AND JACKSON BRANCH PRESERVATION PLAN

A Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Preservation Plan shall be prepared by the applicant and submitted to the City Manager for any proposed development of a lot or parcel containing territory located within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas. The Preservation Plan shall include following components:

- A. Natural Resource Inventory: The Preservation Plan shall identify the land within the Area that is currently in a natural state and that portion of the site that has been altered or disturbed by development or agricultural land uses. All proposed modifications to natural areas permitted under this Ordinance shall be described, including such items as pruning and improvements.
- B. Restoration of Natural Creek Features: Undeveloped land within the Area that is not in a natural state shall be restored to a natural state. The creek bed and water flow in Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch or its tributaries shall be modified where practicable to restore natural stream behavior, including, where practicable, the use of riffles and pools. The banks of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch or tributaries shall also be stabilized where necessary.
- C. Plantings: Restoration and stabilization shall be accomplished by vegetative plantings using accepted bioengineering techniques and with approved indigenous plants, brush, grasses, trees and other materials that comply with regulations issued by the City Manager. All Areas to be restored shall be seeded or planted with approved species in a timely manner and shall be maintained so as to avoid the growth of noxious weeds. Hardwood, conifer and brush species shall be utilized to establish a canopy cover.
- D. Creek Access: The Preservation Plan shall provide public access to the Creek corridor along with linkage to other community transportation networks, including bicycle paths, hiking trails or public transportation. Trailheads shall be provided to link neighborhoods, parking areas and streets to Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch where practicable. The contribution of land required by the Subdivision Regulations for park purposes shall include the land within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas unless otherwise approved by the Mayor and City Council, provided that reasonable efforts shall be made to locate additional park lands outside the floodplain.
- E. Recreational Elements: The Preservation Plan shall provide for passive and active uses including linear parks, open spaces and bike and hiking trail systems. These improvements shall be coordinated with nearby public and private facilities. All site improvements included in the Plan to be located on or dedicated to a public agency shall be considered as public improvements within the meaning of the Subdivision Regulations.
- F. A Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Preservation Plan shall not be required if no portion of the lot or parcel containing territory located within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas is within one hundred feet of the OHWM of Cedar Creek, Sugar Creek, Jackson Creek, and

Jackson Branch or within one hundred feet of the center thread of any tributary of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch actually located within the one hundred year floodplain.

47-15G.10 DRAINAGE CONTROL PLAN

A drainage control plan that describes the hydraulic characteristics of the site as well as the proposed drainage plan shall be submitted. Runoff from areas of concentrated impervious cover (e.g. roofs, driveways, streets, patios, etc.) shall be collected and transported to a drainageway with sufficient capacity to accept the discharge without undue erosion or detrimental impact. The development shall comply with the Stormwater Management Regulations set forth in Section 31-205 of the Code of Ordinances.

47-15G.11 SITE GRADING AND EXCAVATION PLAN

- A. The site proposed for development shall be investigated to determine the soil and geologic characteristics, including soil erosion potential. The development shall be subject to the Soil Erosion and Sedimentation Control Regulations set forth in Sections 31-206 and 31-207 of the Code of Ordinances. In addition, a Site Grading and Excavation Plan shall be submitted with each application for a Special Use Permit and shall include the following:
 - 1. Details of the existing terrain and drainage pattern contours;
 - 2. Proposed site contours;
 - 3. Dimensions, elevation and contours of grading, excavation and fill;
 - 4. A description of methods to be employed in disposing of soil and other material that is removed from allowable grading and excavation sites, including location of the disposal site if on the property;
 - 5. A schedule showing when each stage of the project will be completed, including the total area of soil surface to be disturbed during each stage, and estimated starting and completion dates. The schedule shall be prepared so as to limit, to the shortest possible period, the time soil is exposed and unprotected. In no case shall the existing natural vegetation be destroyed, removed or disturbed more than fifteen (15) days prior to initiation of the improvements; and
 - 6. A detailed description of the re-vegetation and stabilization methods to be employed, to be prepared in conjunction with the Landscape Plan. This description should include locations of erosion control measures such as sedimentation basins, straw bales, diversion swales, etc. The grading and excavation plan must be consistent with all the provisions of this ordinance.
- B. Unless otherwise provided in this Ordinance, the following restrictions, requirements and standards shall apply to all development within the Area:
 - 1. Every effort shall be made to develop the site in such a manner so as to minimize the alteration of the natural topography;
 - 2. No grading, filling, cleaning, clearing, terracing or excavation of any kind shall be initiated until final engineering plans are approved and the Special Use Permit is granted by the Mayor and City Council; and

3. The depositing of any excavation, grading or clearing material within Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch or any wetland shall be prohibited.
4. In addition to locating all site improvements on the subject property to minimize adverse impacts on Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch, the applicant shall install a physical barrier during construction, and following completion of the project, where necessary, to prevent direct runoff and erosion from any modified land surface within Jackson Creek.

47-15G.12 VEGETATION AND RE-VEGETATION/LANDSCAPE PLAN

To preserve or restore the natural state of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch, to minimize erosion, stabilize the stream bank, protect water quality, maintain water temperature at natural levels, preserve fish and wildlife habitat, to screen man-made structures, and also to preserve aesthetic values of the natural water course and wetland areas, a natural vegetation strip shall be restored, established, preserved and maintained along the edge of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch and any wetland located within the watershed of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch. The natural vegetation strip shall extend landward a minimum of 25 feet from the ordinary high water mark of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch, any tributary thereof actually located within the floodplain or any wetland within the watershed of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch.

Within the natural vegetation strip, trees, grasses and shrubs may be selectively pruned or removed for harvest of merchantable timber, to achieve a filtered view of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch or wetland from the principal structure and for reasonable private access. Said pruning and removal activities shall ensure that a live root system stays intact to provide for stream bank stabilization and erosion control.

A Landscape Plan shall be submitted with each Special Use Permit application for development activity within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch Watershed Protection Areas and contain the following:

- A. A plan describing the existing vegetative cover of the property and showing those areas where the vegetation will be removed as part of the proposed construction; and
- B. A plan describing the proposed re-vegetation of disturbed areas specifying the materials to be used.
- C. The vegetation must be planned in such a way that access for stream maintenance purposes is not prevented.

47-15G.13 CONDITIONS AND RESTRICTIONS FOR PERMITTING STREAM MODIFICATION

Stream modification, when permitted, is subject to the following conditions and restrictions:

- A. Water quality, habitat and other natural functions must be significantly improved by the modification; no significant habitat area may be destroyed;
- B. The amount of flow and velocity of a stream is not to be increased or decreased as the stream enters or leaves a subject property, unless this reflects an improvement over previous conditions in terms of reduced flooding, reduced erosion, or enhanced low-flow conditions;

- C. Prior to diverting water into a new channel, a qualified professional approved by the City Manager shall inspect the stream modification, and issue a written report demonstrating the modified stream complies with the requirements in Section 7.02; and
- D. Stream channel enlargement, or other modifications that would increase conveyance, shall not be permitted if the intended purpose is to accommodate development activities in the floodplain.

47-15G.14 CREEK OR TRIBUTARY RELOCATION PLAN

Creek or tributary relocation may be permitted in accordance with a Relocation Plan which provides for:

- A. The creation of a natural meander pattern, pools, riffles, and substrate;
- B. The formation of gentle side slopes (at least three feet horizontally per one foot vertically), including installation of erosion control features;
- C. The utilization of natural materials wherever possible;
- D. The planting of vegetation normally associated with streams, including primarily native riparian vegetation;
- E. The creation of spawning and nesting areas wherever appropriate;
- F. The re-establishment of the fish population wherever appropriate;
- G. The restoration of water flow characteristics compatible with fish habitat areas, wherever appropriate;
- H. The filling and re-vegetation of the prior channel;
- I. A proposed phasing plan, specifying time of year for all project phases;
- J. Plans for sediment and erosion control; and
- K. Establishment of a low-flow channel which reflects the conditions of a natural stream.

47-15G.15 CRITERIA FOR PERMITTING ARMORING OF CHANNELS AND BANKS

Armoring in the form of bulkheads, riprap or other materials or devices is not permitted except in accordance with the following:

- A. Significant erosion cannot be prevented in any other way and the use of vegetation and gradual bank slopes has not sufficiently stabilized the shoreline or bank;
- B. The bulkhead or other device is not placed within a wetland;
- C. The bulkhead, riprap or other device will minimize the transmittal of wave energy or currents to other properties;
- D. The change in the horizontal or vertical configuration of the land must be kept to a minimum; and

- E. Utilization of accepted bioengineering technologies where appropriate.

47-15G.16 CRITERIA FOR PERMITTING THE USE OF CULVERTS

Culverts are not permitted in Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch except in accordance with the following:

- A. Where a culvert is necessary for creating or improving access to a property or as part of a public road;
- B. The culvert shall allow passage of fish inhabiting the stream, and accommodate the 100-year flood event without increasing upstream flooding, except where a restricting culvert is desirable as part of an overall storm and floodwater management plan;
- C. The culvert shall be maintained free of debris and sediment to allow free passage of water and fish; and
- D. The creek bed shall not be significantly widened for the placement of a culvert as this increases siltation; if multiple culverts must be installed, one culvert should be at the level of the bottom of the stream and the others at or above normal water elevation.

47-15G.17 CRITERIA FOR PERMITTING ON-STREAM IMPOUNDMENTS

Impoundment of Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch is not permitted except in accordance with the following:

- A. The impoundment is determined to be in the public interest by providing regional stormwater detention, flood control, or public recreation;
- B. The impoundment will not prevent the upstream migration of fish;
- C. A non-point source control plan has been implemented in the upstream watershed to control the effects of sediment runoff as well as minimize the input of nutrients, oil and grease, metals, and other pollutants;
- D. Impoundments without permanent low-flow pools are preferred except where a permanent pool is necessary to achieve the intended benefits of the impoundment (e.g. recreation or water quality mitigation); and
- E. Impoundment design shall include gradual bank slopes, appropriate bank stabilization measures, and a pre-sedimentation basin.

47-15G.18 WETLAND PROTECTION AND REPLACEMENT

- A. Except as provided herein, no filling or excavating within wetlands is permitted except to install piers for the limited development of walkways and observation decks. Walkways and observation decks shall avoid high quality wetland areas, and shall not adversely affect natural areas designated in the Illinois Natural Areas Inventory or the habitat of rare or endangered species.
- B. Wetland areas occupied by the development of decks and walkways must be mitigated by an equal area of wetland habitat improvement.

- C. Modification of degraded wetlands for purposes of stormwater management is permitted where the quality of the wetland is improved and total wetland acreage is preserved. Where such modification is permitted, wetlands shall be protected from the effects of increased stormwater runoff by measures such as detention or sedimentation basins, vegetated swales and buffer strips, and sediment and erosion control measures on adjacent developments. The direct entry of storm sewers into wetlands shall be prohibited.
- D. Pursuant to Special Use Permit, wetlands within the Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch watersheds may be relocated and replaced in accordance with applicable federal and state law provided that the size of the replacement wetland shall be 150% of the size of the original wetland.

47-15G.19 MAINTENANCE EASEMENT

The applicant shall grant an access easement for stream maintenance purposes to the City of Joliet if the development does not contain other land adjacent to Cedar Creek, Sugar Creek, Jackson Creek, and Jackson Branch dedicated to the City of Joliet.

47-15G.20 NONCONFORMING USES

Nonconforming uses shall be regulated in accordance with Section 47-17.22 of the Zoning Ordinance of the City of Joliet.

47-15G.21 VARIATIONS

The Mayor and City Council may grant one or more variations from the requirements of this Ordinance upon the demonstration by the applicant of clear and convincing evidence that enforcement of this ordinance would cause an undue hardship on the affected property or would impose an unreasonable economic burden on the property that outweighs the corresponding benefit to the public afforded by the restriction. Variances shall be granted by the Mayor and City Council upon the advice of the Plan Commission.*

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