ORDINANCE 2006-25

An Ordinance Amending and Recodifying Certain Sections of Chapter 53 of the Lowell Municipal Code

Whereas, the Lowell Town Council has determined it is in the best interests of the health, safety an welfare of the Town to adopt a comprehensive stormwater management policy and plan; and

Whereas, I.C. § 36-9-28.5 and rules promulgated by the Indiana Department of Environmental Management permit local municipalities to establish a definitive policy to control and manage stormwater runoff within a municipality; and

Whereas, This ordinance seeks to amend and combine stormwater management-related requirements already contained in the Lowell Municipal Code by recodifying or amending:

A) Chapter 53, "Storm Water Management" Sections 53.01 through 53.99 to be renumbered as Sections 53.101 through 53.199 in Subchapter 100, and re-titled "Illegal Discharge Detection and Elimination Program"; and

B) Adding Subchapter 200, "New Development and Redevelopment" to Chapter 53, which shall include the language previously found in Chapter 152, "Storm Water Detention" and Subchapter 154.058, "Subdivision Regulations – Drainage" of the Lowell Municipal Code.

IT IS THEREFORE ORDAINED, by the Lowell Town Council that Ordinance 2006-25 is hereby adopted as the stormwater management policy and plan for and in the Town of Lowell, as follows:

Chapter 200 - Stormwater Management - New Development and Redevelopment

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Section 201: General Provisions

201.01 Findings of Fact. It is hereby determined that land development projects increase stormwater runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition; and contributes to increased quantities of water-borne pollutants, and; stormwater runoff, soil erosion and non-point source pollution can be controlled and minimized through the regulation of stormwater runoff from development sites.

201.02 Purpose. This ordinance is intended to set standards to regulate the quantity and quality of storm water runoff when land use changes to a use that may result in increased imperviousness. These minimum requirements are established to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. It shall be the policy of the Town of Lowell and the Lowell Stormwater Management Board that these minimum requirements shall be required for any new development, redevelopment and new construction located within the Town not exempt under this ordinance. This ordinance seeks to meet this purpose through the following objectives:

A) Minimize increases in stormwater runoff from any development in order to reduce flooding, siltation, increases in stream temperature, and stream bank erosion and maintain the integrity of stream channels;

B) Minimize increases in non-point source pollution caused by stormwater runoff from development which would otherwise degrade local water quality;

C) Reduce stormwater runoff rates and volumes, soil erosion and non-point source pollution, wherever possible, through stormwater management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

201.03 Applicability. The performance standards herein must be met for **all new development areas that disturb one (1) or more acres** of land or disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) or more acres of land **and all redevelopment areas that disturb 10,000 square feet of surface area or more** within the Town of Lowell. The following activities may be exempt from these stormwater performance criteria:

A) Developments that do not disturb more than one (1) acre of land, provided they are not part of a larger common development plan; or
B) Any logging and agricultural activity; or
C) Additions or modifications to existing single family structures, or
D) Repairs to any stormwater treatment practice deemed necessary by the administering authority.

201.04 Compatibility with Other Permit and Ordinance Requirements. This ordinance seeks to amend and combine stormwater management-related requirements within the Town of Lowell.

A) Chapter 53, "Storm Water Management" Sections 53.01 through 53.99 shall be renumbered to 53.101 through 53.199 in Subchapter 100, and titled "Illegal Discharge Detection and Elimination Program."

B) Subchapter 200, "New Development and Redevelopment" shall be added to Chapter 53 and shall include the language previously found in Chapter 152, "Storm Water Detention" and Subchapter 154.058, "Subdivision Regulations – Drainage" within the Town of Lowell Municipal Code, as restated or amended herein.

Section 202: Definitions

"Administering authority" - the Town of Lowell Stormwater Management Board through the MS4 Operator, or designee, having been designated by the Lowell Town Council to administer this ordinance.

"Applicant" - a property owner or agent of a property owner who has filed an application for a stormwater management permit.

"Average annual rainfall" - a calendar year of precipitation, excluding snow, which is considered typical.

"BMP – Best Management Practice" – Any structural or nonstructural control measure utilized to improve the quality and, as appropriate, reduce the quantity of storm water runoff. The term includes schedules of activities, prohibitions of practice, treatment requirements, operation and maintenance procedures, use of containment facilities, land use planning, policy techniques, and other management practices.

"Building" - any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

"Business day" - a day the office of the MS4 Operator is routinely and customarily open for business.

"Cease and desist order" - a court–issued order to halt land disturbing construction activity that is being conducted without the required permit.

"Channel" - a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

"Clearing" – any activity that removes the vegetative surface cover

"Connected imperviousness" - an impervious surface that is directly connected to a separate storm sewer or water of the state via an impervious flow path.

"Construction Activity" – land disturbing activities associated with the construction of infrastructure or structures. The term "construction activity" does not include routine ditch or road maintenance or minor landscaping projects.

"Construction Project Site" – The physical location(s) or legal boundaries within which a construction activity or a series of construction activities is planned to be or is being accomplished.

"Construction Site Access" – A stabilized stone surface at all points of construction related egress from a project site planned and installed in accordance with specification from an approved reference manual, and maintained throughout the period of land disturbing activities for the purpose of capturing and detaining sediment carried by tires, tracks, or other surface contact components of vehicles, earthmoving equipment, or material and personnel transport conveyances.

"Dedication" - the deliberate appropriation of property by its owner for general public use.

"Department" – reference to the Indiana Department of Environmental Management (IDEM)

"Design storm" - a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth of rainfall.

"**Detention**" - the temporary storage of storm runoff in a stormwater management practice with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

"Detention Facility" - a detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

"Developer" – a project site owner or person financially responsible for construction activity; or an owner of property who sells, leases, or offers for sale or lease, any lot(s) in a subdivision or larger common plan of development or sale.

"Director" – The chief executive officer of IDEM or his/her designee.

"Drainage Easement" - a legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

"Drainage Way" – any channel that conveys surface storm water runoff

"Effective infiltration area" - the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.

"Erosion" - the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

"Erosion and Sediment Control Plan" – a set of plans prepared by or under the direction of a licensed professional engineer, licensed land surveyor, or Certified Professional in Storm Water Quality (CPSWQ) indicating the specific measures and sequencing to be used to control sediment and erosion on a development site during and after construction.

"Erosion and Sediment Control System" – appropriate control measures combined to prevent or minimize the wearing away of soil, sediment, and rock fragments by water , wind, or ice, and to intercept detached or suspended particles to prevent their discharge from or within a project site.

"Fee in Lieu" - a payment of money in place of meeting all or part of the storm water performance standards required by this ordinance.

"Final stabilization" – the establishment of permanent vegetative cover or the application of a permanent, non-erosive material to areas where all land disturbing activities have been completed and no additional land disturbing activities are planned under the current plan.

"Financial guarantee" - a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the Town of Lowell by the responsible party to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.

"Grading" – excavation or fill of material, including the resulting conditions thereof.

"**Hotspot**" - an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

"**Hydrologic Soil Group (HSG)**" - a Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

"Impervious surface" - an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, parking lots and streets are examples of areas that typically are impervious.

"Individual Building Lot" – a single parcel or land in a multi-parcel development.

"**Industrial Stormwater Permit**" - a National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

"In–fill area" - an undeveloped area of land located within existing development.

"**Infiltration**" - the entry of precipitation or runoff into or through the soil.

"Infiltration system" - a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.

"**Jurisdictional Wetland**" - an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

"Land disturbing construction activity" – any manmade change of the land surface, including removing vegetative cover that exposes the underlying soil, excavating, filling, transporting, and grading.

"Landowner" - the legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

"**Maintenance Agreement**" - a legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

"Measurable Storm Event" – a precipitation event that results in a total measured accumulation of precipitation equal to or greater than one-half (½) inch of rainfall.

"MEP" or "maximum extent practicable" - a level of implementing best management practices which takes into account the best available technology, cost effectiveness and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties and geographic features.

"MS4 – Municipal Separate Storm Sewer System" – a system of storm water conveyances either owned or operated or regulated by a governmental agency that IDEM has designated as responsible to eliminate or minimize pollutant loadings of the storm water entering waters of the state.

"MS4 Area" – within this ordinance, the corporate limits of the Town of Lowell permitted under an NPDES Permit regulated by 327 IAC 15-13.

"MS4 Operator" - The person locally responsible for development, implementation, or enforcement of the Storm Water Quality Management Plan (SWQMP) for the Town of Lowell as regulated under 327 IAC 15-13, or authorized representative thereof.

"New Development" - development resulting from the conversion of previously undeveloped land or agricultural land uses.

"Non-point Source Pollution" - pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

"Notice of Plan Approval (NPA)" - A notification from the MS4 Operator to the project site owner that the construction plan for a project site has been reviewed and approved by the MS4 Operator. The project site owner must insert the NPA with the Notice of Intent sent to the Director of IDEM at least forty-eight (48) hours prior to initiating land disturbing activities at the construction project site.

"NPDES" - The National Pollutant Discharge Elimination System, a program administered by IDEM to reduce or eliminate the pollutant loadings into public waters.

"Off-Site Facility" - a stormwater management measure located outside the subject property boundary described in the permit application for land development activity.

"On-Site Facility" - a stormwater management measure located within the subject property boundary described in the permit application for land development activity.

"Peak Discharge" - The maximum rate of flow from a point of storm water discharge during or immediately following a storm event, usually in reference to a specific return period or 'design storm'.

"Percent fines" - the percentage of a given sample of soil, which passes through a # 200 sieve.

> **Note to Users:** Percent fines can be determined using the "American Society for Testing and Materials", volume 04.02, "Test Method C117–95 Standard Test Method for Materials Finer than 75–_ m (No. 200) Sieve in Material Aggregates by Washing". Copies can be obtained by contacting the American society for testing and materials, 100 Barr Harbor Drive, Conshohocken, PA 19428–2959, or phone 610–832–9585, or on line at: "http://www.astm.org".

"Perimeter Control" - A barrier that prevents sediment from leaving a site by filtering sediment-laden runoff or diverting it to a sediment trap or basin.

"Permanent Stabilization" - The establishment, at a uniform minimum of seventy percent (70%) across the disturbed areas, of vegetative cover or permanent non-erosive material that ensures the resistance of the underlying soil to erosion, sliding, or other movement.

"Pervious surface" - an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests or other similar vegetated areas are examples of surfaces that typically are pervious.

"Phasing of Construction" - Sequential development of smaller portions of a large project site, stabilizing each portion before initiating land disturbing activities on the next portion, to minimize exposure of land to erosion.

"Post–construction site" – is a site following the completion of land disturbing construction activity and final site stabilization.

"Pre–development condition" - the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.

"Protective Area" - an area of land that commences at the delineated boundary of lakes, streams, rivers, or wetlands, and that is the greatest of the following widths, as measured horizontally from the boundary to the closest impervious surface. However, in this paragraph, "protective area" does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location. Six (6) categories of protective area have been identified:

A) For outstanding resource waters and exceptional resource waters, and for wetlands in areas of special natural resource interest, 75-feet.

B) For perennial and intermittent streams identified on a United States geological survey 7.5–minute series topographic map, or a county soil survey map, whichever is more current, 50-feet.

C) For lakes, 50-feet.

D) For highly susceptible wetlands, 50-feet. Highly susceptible wetlands include the following types: fens, sedge meadows, bogs, low prairies, conifer swamps, shrub swamps, other forested wetlands, fresh wet meadows, shallow marshes, deep marshes and seasonally flooded basins. This paragraph does not apply to wetlands that have been completely filled in accordance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in accordance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after fill has been placed.

E) For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10-feet nor more than 30-feet. Less susceptible wetlands include degraded wetlands dominated by invasive species such as reed canary grass.

F) For concentrated flow channels with drainage areas greater than 130 acres, 10-feet.

"Recharge" - the replenishment of underground water reserves.

"Redevelopment " – any construction, alteration, or improvement where structures and/or impervious surfaces are removed and/or replaced.

"**Responsible Person"** – any person who is responsible for or permits any violation of this Ordinance.

"Runoff" - An accumulation of storm water flow that is moving across the surface of the earth as sheet flow or concentrated flow in natural surface watercourses, drains, or waterways.

"Sediment" - *S*olid material, both organic and mineral, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface.

"Sedimentation" - The settling and accumulation of unconsolidated sediment carried by storm water runoff.

"Sediment Control" – measures that prevent eroded sediment from leaving the site.

"Site" - A parcel of land or a contiguous combination thereof, where grading work is performed as a single unified operation.

"Site Development Permit" - A permit issued by the municipality for the construction or alteration of ground improvements and structures for the control of erosion, runoff, and grading.

"Start of Construction" - The first land-disturbing activity associated with a development, including land preparation such as clearing, grading, and filling; installation of streets and walkways; excavation for basements, footings, piers, or foundations; erection of temporary forms; and installation of accessory buildings such as garages.

"Stop work order" - an order issued by the MS4 Operator, or designee, which requires that all construction activity on the site be stopped.

"Storm Water Management" - the use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, discharge volumes, peak flow discharge rates and detrimental changes in stream temperature that affect water quality and habitat.

"Storm Water Management Board" – the administering authority of this Ordinance, established and empowered by the Town of Lowell Municipal Code Section 34.45 and 34.46.

"Storm Water Management Plan" - a comprehensive plan designed to reduce the discharge of pollutants from storm water after the site has under gone final stabilization following completion of the construction activity.

"Storm Water Quality Measure" - A practice or combination of practices to control or minimize pollutants associated with storm water runoff.

"Storm Water Retrofit" - a stormwater management practice designed for an existing development site that previously had either no stormwater management practice in place or a practice inadequate to meet the stormwater management requirements of the site.

"Temporary Stabilization" - The covering of soil to ensure its resistance to erosion, sliding, or other movement. The term includes vegetative cover, anchored mulch, or other non-erosive materials applied at a uniform minimum density of seventy percent (70%) across the disturbed areas of a project site.

"TMDL – Total Maximum Daily Load" - established under section 303(d) of the federal Clean Water Act, is a calculation of the maximum amount of pollutant that a waterbody can receive and still meet water quality standards, and allocates pollutant loadings among point and non-point sources. The calculation must include a margin of safety, which accounts for scientific uncertainty and future growth. Seasonal variations are also included. The TMDL is calculated using the following equation:

TMDL = WLA + LA + MOS + SV, where :

- WLA = Waste Load Allocations (point sources)
- LA = Load Allocations (non-point sources)
- MOS = Margin of Safety
- SV = Seasonal Variation

"Top of the channel" - an edge, or point on the landscape, landward from the ordinary high–water mark of a surface water of the state, where the slope of the land begins to be less than 12% continually for at least 50 feet. If the slope of the land is 12% or less continually for the initial 50 feet, landward from the ordinary high–water mark, the top of the channel is the ordinary high–water mark.

"TR–55" - the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986.

"Tracking" - The movement and re-depositing of dirt, mud, aggregate, sediment, or other storm water pollutants from a project site by the actions of wheels, tires, skids, tracks, or other surface contact components of cars, trucks, heavy equipment, or material and personnel transport conveyances.

"Type II distribution" - a rainfall type curve as established in the "United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973".

"Watercourse" - Any body of water, including, but not limited to lakes, ponds, rivers, streams, and bodies of water delineated within the Town of Lowell.

"Water Quality Volume (WQ_v)" - the storage needed to capture and treat the "first flush" of runoff. The Water Quality Volume is determined as the runoff resulting from the first one inch of rainfall upon the site.

"Waterway" - A channel that directs surface runoff to a watercourse or to the public storm drainage system.

Section 203: Performance Criteria for Stormwater Management.

203.01 Prior to design, applicants are required to consult with the administering authority to determine if they are subject to additional stormwater design requirements. Unless judged by the administering authority to be exempt or granted a waiver, the following performance criteria shall be addressed for stormwater management at all sites:

A) All site designs shall establish stormwater management practices to control the peak flow rates of stormwater discharge associated with specified design storms and reduce the generation of stormwater.

B) These practices should seek to utilize pervious areas for stormwater treatment and to infiltrate stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas to the maximum extent practical to provide treatment for both water quality and quantity.

C) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity, and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section.

203.02 Minimum Requirements.

A) Quantity Calculations - Estimated: The estimated storm runoff or design discharge for drainage areas less than ten (10) acres in size may be determined by the Rational Method. The estimated storm runoff or design discharge for drainage areas ten (10) acres or more in size shall be determined in accordance with the Soil Conservation Service Technical Release Number 55 (SCS TR-55).

1) Detention Required - *Allowable Storm Water Release Rate (Q_{100}post to Q_{10} pre – critical duration storm)* The developer shall submit detailed computations of runoff before and after development, redevelopment or new construction which demonstrate that runoff will not be increased to the extent that the peak runoff after development, redevelopment, or new construction for the 100-year return period storm of critical duration (Q_{100}) does not exceed the runoff before development, redevelopment, or new construction for the 10-year return period storm (Q_{10}). Design storms shall have a SCS TR-55 Type II rainfall distribution and the critical duration storm is that storm duration which requires the greatest storm water storage.

(a) The outlet from the detention basin shall be designed to carry no more than the storm water runoff rate from the given area in its natural, unimproved condition, based on a storm with a 10-year recurrence interval. The outlet discharge from post-development conditions shall be designed not to exceed the downstream flows from pre-developed conditions.

(b) Any detention means shall be provided with metered flow outlets, preferably designed as "dry ponds" where feasible. The perimeter of dry and/or wet detention ponds shall have

no steeper than a 4:1 slope, finished with sod or in an improved manner to facilitate easy maintenance, grass mowing, and safety without fissuring or eroding. The metered flow outlet shall be controlled by means of weirs, guillotine gates, etc., combined with concrete headwalls, splash blocks, rubble baffles or similar protective buffers against fissuring, eroding, washing, freezing and heaving.

(c) Parking areas may be used for the detention of storm water runoff. Maximum depth of detention on a parking area shall be six (6) inches. The owner/developer shall make written acknowledgment to the Council of the use of a parking area for detention.

2) Drainage System Design – The Town Engineer shall review and approve storm drainage plans before approval is granted by the Planning Commission. Any drainage plans that propose to direct storm drainage onto lands or waterways under the jurisdiction of other governmental agencies will also be subject to approval from the appropriate agency. The County Drainage Board must approve projects directing surface water directly into a regulated drain.

(a) Off-Site Runoff – where the development or redevelopment site currently receives storm water runoff from upstream areas, the proposed drainage system design shall have adequate capacity to maintain pre-developed runoff conditions without adverse effects to the proposed development or redevelopment.

(b) On-site conveyance network –

(1) The storm drainage system shall be designed to convey a ten-year recurrence interval storm event.
(2) Drainage ditches, channels and storm sewers shall have a minimum design velocity of two feet per second.
(3) Minimum storm sewer or culvert pipe diameter shall be twelve (12) inches.
(4) Storm drainage plans shall include a schedule of structures indicating: structure number, references to the plan and profile, function, style (i.e. flat-top or standard cone), pipe sizes for inlet and outlet pipes, invert elevations of pipes, casting brand and type, grate or lid type, location and any necessary remarks.
(5) Flow capacity shall be as determined using Manning's formula, with the following values for Manning's *"n"*:

Material	Manning's "*n*"
Ditch, maintained	0.030
Ditch, not maintained	0.050 – 0.100
Concrete Pipe	0.013
PVC	0.011
HDPE	0.010

(c) Street Drainage –

(1) Storm water runoff shall not be carried in streets for a distance greater than six hundred (600) feet. The Town Engineer may require additional collection points, if deemed necessary. Inlets, curb turnouts or other types of runoff collection methods shall be so located as to intercept the flow within the distance specified.
(2) The use of underdrains to reduce the accumulation of subsurface water shall be required below the curb line. Such underdrains shall meet the requirements of the Lowell Standard Details.
(3) A manhole, catch basin, inlet or other approved type of debris retainer shall be so located to intercept debris collected by the drainage system. Such debris retainer shall have a minimum sump depth below the sewer invert of two (2) feet. Structures, lids and castings are shown in Lowell Standard Details.
(4) Storm drainage and surface water installations, including roof downspouts and foundation drains, shall not be connected to or allowed to empty into streets or the sanitary sewer system.
(5) Surface water from a paved area of more than 3,500 square feet shall not be discharged onto an existing or proposed street or alley, except in a controlled manner approved by the Council.

(d) Lot drainage –

(1) Minimum lot grades:

a) Primary lot. The primary lot is that portion of the lot between the frontage road and the rear face of the residence or building. The minimum grades permissible in the primary lot are as follows:

Type of Grade	Recommended	Minimum
Surface	2%	1%
Lot Line Swale	2%	1%
Cross Lot Swale	1%	0.5%

b) Secondary lot. The secondary lot is that portion of the lot between the rear property line and the rear face of the residence or building. The minimum grades permissible in the secondary lot are as follows:

Type of Grade	Recommended	Minimum
Surface	1.5%	1%
Lot Line Swale	1%	0.5%
Cross Lot Swale	1%	0.5%
Surface Over Septic Fields	2%	1%

(2) Common swales. A common swale is one that serves as a drainage course carrying the runoff from two or more lots or properties. (Side lot line swales may be excepted from this requirement.)

a) The minimum top width for a common swale shall be ten (10) feet, and the minimum depth shall be nine (9) inches.

B) Quality Calculations - Actual: Storm Water Quality Requirements (Treatment of the WQ_v upon development completion). The water quality volume is the storage needed to capture and treat the runoff from the first one (1) inch of rainfall. In numerical terms, it is equivalent to an inch of rainfall multiplied by the volumetric runoff coefficient (R_v) and the site area.

1) The following equation is used to calculate WQ_v (in acre-feet):

$$WQ_v = \frac{(P)\,(R_v)\,(A)}{12}$$

where:

WQ_v = water quality volume (acre-feet)
P = one (1) inch of rainfall
R_v = 0.05 + 0.009 (I) where I is the percent impervious cover
A = area in acres

C) Impact Drainage Areas – Special Requirements in Protective Areas

1) The administering authority is authorized, but is not required, to classify certain geographical areas as Impact Drainage Areas and to enact and promulgate regulations, which are generally applied. In determining Impact Drainage Areas, the administering authority shall consider such factors as topography, soil type, capacity of existing regulated drains, and distance from adequate drainage facilities. In addition to specific Impact Drainage Areas classified by the administering authority, the following areas are hereby designated as Impact Drainage Areas, unless good reason for not including them is presented and approved by the Stormwater Management Board:

(a) A *floodway* or *floodway fringe* or *floodplain boundary* as designated by the Indiana Department of Natural Resources.
(b) A *flood boundary area* or *floodway* as designated by the Federal Emergency Management Agency National Flood Insurance Program.
(c) Land within seventy-five (75) feet of each bank of any open channel regulated drain.
(d) Land within seventy-five (75) feet of the centerline of any regulated drain tile.

2) Impervious surfaces shall be kept out of the protective area to the maximum extent practicable.

3) Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self–sustaining vegetative cover of 70% or

greater shall be established and maintained. The adequate sod or self–sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non–vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.

Note to Users: It is recommended that seeding of non–aggressive vegetative cover be used in the protective areas. Vegetation that is flood and drought tolerant and can provide long–term bank stability because of an extensive root system is preferable.

4) Best management practices such as filter strips, swales, or wet detention basins, that are designed to control pollutants from non–point sources may be located in the protective area.

5) This paragraph does not apply to:

   (a) Redevelopment sites;
   (b) In-fill development less than 5 acres; or
   (c) Structures that cross or access surface waters such as boat landings, bridges and culverts.

6) Stormwater discharges to critical areas with sensitive resources (i.e. navigable waters, receiving waters with approved TMDL limits, recharge areas, water supply reservoirs) may be subject to additional performance criteria, or may need to utilize or restrict certain stormwater management practices.

D) Fueling and Vehicle Maintenance Areas –Special Requirements for new retail gasoline outlets, new municipal, state, federal, institutional or commercial refueling areas, or refueling areas that replace their existing tank systems. (Excludes individual or agricultural users.)

1) Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have BMPs designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen.

2) **Note to Users:** A combination of the following BMPs may be used:

   (a) Oil and Grease Separators;
   (b) Canopies;
   (c) Petroleum Spill Cleanup Materials; or
   (d) Any other structural or non-structural method of preventing or treating petroleum in runoff.

E) Alternative Requirements - The administrative authority may establish storm water management requirements more stringent than those set forth in this section if the MS4 Operator determines that an added level of protection is needed to protect sensitive resources.

Section 204: Stormwater Management Plan Design Criteria

204.01 Minimum Requirements. All development disturbing at least one (1) acre and all redevelopment disturbing at least ten thousand (10,000) square feet must include provisions to preserve or minimize impacts to predevelopment site hydrology and topography to the maximum extent practicable through runoff pollution prevention techniques. In addition to runoff pollution prevention measures, stormwater treatment BMPs shall be incorporated into Plan Design as needed to meet the performance criteria in Section 3 of this Ordinance.

204.02 Runoff Pollution Prevention.

A) Stormwater management begins with thoughtful design. Site planning that integrates comprehensive stormwater management from the outset is the most effective way to reduce and prevent pollution and flooding. Good site planning can also reduce the size and cost of structural solutions; when BMP stormwater structures are proposed only at the final stages of design and construction, the result is often unnecessarily large and costly facilities. Planning ahead can prevent the need for large structures.

B) Site Planning Practices – With careful site planning, developers and municipalities can reduce the amount of impervious area created by pavement and roofs and thus reduce the volume of runoff and associated pollutants requiring control. Practices that could be considered:

1) Select site designs that preserve or minimize impacts to predevelopment site hydrology and topography.
2) Protect environmentally sensitive areas.
3) Practice conservation development.
4) Use cluster development.
5) Create open space.
6) Maximize the flow path from inflow points to outflow points.
7) Provide underdrain systems, where applicable.
8) Reduce hydraulic connectivity of impervious surfaces.
9) Practice rooftop greening.
10) Relax frontage and setback requirements.
11) Modify sidewalk standards.
12) Modify driveway standards.
13) Use alternative cul-de-sac designs.
14) Use alternative parking lot surfaces.

204.03 Stormwater Treatment BMPs.

A) Types of treatment BMPs. A variety of BMPs are effective in 1) filtering stormwater, 2) reducing the speed at which it leaves a site, and 3) reducing the volume of runoff. These three actions are critical to reducing non-point-source water pollution and protecting downstream water bodies. Some types of storm water treatment BMPs are:

1) Retention Systems;
2) Detention Systems;
3) Infiltration Systems;
4) Filtration Systems;
5) Constructed Wetlands; and
6) Alternative Outlet Designs.

B) Location & Regional Treatment Options. All storm water storage facilities shall be constructed within a dedicated storm water storage easement, which meets the following standards:

1) The boundary of the maximum water surface elevation of any storm water storage facility resulting from a post-development 100-year return period storm shall define the minimum dedicated storm water storage easement. Such storm water storage easement shall be bounded by not less than a twenty-five (25) feet horizontal width combined utility/drainage easement to separate the storm water storage facility from any building or structure. A variance for locating any utility, building or structure within the said boundary or any building or structure within the said separation area may be granted for good cause as determined by the administering authority, such ass allowances for underground storm water storage or for installation of community amenities.

2) The maximum water surface elevation of any storm water storage facility resulting from a post-development 100-year return period storm shall be at least two (2) feet lower than the lowest ground floor or lowest unprotected basement opening of any building located on any property which uses the storm water storage facility as a drainage outlet.

3) Storm water storage facilities that rely on man-made berms of any kind to store storm water shall be provided with an automatic non-mechanical emergency by-pass drainage device (overflow weir, etc.) capable of passing the flow resulting from a post-development 100-year return period storm without causing failure of the man-made berms or ponding greater than two (2) feet above the maximum water surface elevation resulting from a post-development 100-year return period storm.

4) Only the dedicated storm water storage easements may be used for storm water storage facilities. Any portion of a residential lot, combined utility/drainage easements, utility easements, and traffic rights-of-way do not qualify for use as storm water storage facilities.

C) BMPs may be located on-site or off-site as part of a regional storm water device, practice or system.

D) The administering authority may approve off-site management measures provided that all of the following conditions are met:

1) The administering authority determines that the post-construction runoff is covered by a storm water management system plan that is approved by the local public agency; and

2) The plan approved contains specific management requirements consistent with the stated purposes and intent of this ordinance.

E) The off-site facility meets all of the following conditions:

1) The facility is in place;
2) The facility is designed and adequately sized to provide a level of storm water control equal to or greater than that which would be afforded by on-site practices meeting the performance standards of this Ordinance; and
3) The facility has a person or entity legally obligated and responsible for its long-term operation and maintenance.

F) Where a regional treatment option is utilized such that the Stormwater Management Board may exempt the applicant from all or part of the minimum on-site storm water management requirements, the applicant shall be required to pay a fee in an amount determined in negotiation with the Board. In determining the fee for post-construction runoff, the Board shall consider an equitable distribution of the cost for land, engineering design, construction and maintenance of the regional treatment option.

Section 205: Stormwater Management Permit Procedures and Requirements.

205.01 Permit Required.

A) No responsible party may commence a land disturbing construction activity within the Town of Lowell without first receiving prior approval of a Site Development Permit.

B) No developer or other person shall be granted a Site Development Permit without the approval of a Stormwater Management Permit Application Package by the administering authority for land-disturbing activity within the Town of Lowell. *(Individual Building Lots less than one (1) acre – See Section C below.)*

C) The developer of an Individual Building Lot containing less than one (1) acre, but which is part of a multi-lot construction project within the Town of Lowell shall be required to complete a Declaration of Responsibility for Erosion and Sediment Control for a Small Residential Lot prior to receipt of a Site Development Permit. This declaration assigns responsibility for conformance to the stormwater management plan as required in 327 IAC 15-5-7.5 to the individual building lot developer.

D) No site development permit is required for the following activities:

1) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
2) Existing nursery and agricultural operations conducted as a permitted main or accessory use.

205.02 Permit Application Package Requirements.

A) Written Permit Application – the appropriate application may be obtained through the Community Development Director's Office.

B) Construction Plans – the following elements shall be included within the Construction Plan:

1) *Contact Information* - The name, address, and telephone number for the following or their designees:

(1) landowner;
(2) developer;
(3) project engineer for practice design and certification; and
(4) All other agents, attorneys or others, as applicable.

2) *Legal Description* - A formal and complete legal description of the property proposed to be developed, referenced to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat, which has been approved or prepared by a registered land surveyor.

3) *Location & Vicinity Maps*

4) *Topographic Base Map – Predeveloped Condition*

(a) A topographic base map not exceeding 1"=400' scale of the site which extends a minimum of 300 feet beyond the limits of the proposed development and indicates:

(1) existing surface water drainage including streams, ponds, culverts, ditches, and wetlands;
(2) predominant soil types and hydrologic soil groups, current land use including all existing structures;
(3) existing cover type and condition, topographic contours of the site at intervals not to exceed five (5) feet where the slope is greater than 10% and not more than two (2) feet when the slope is less than 10%;
(4) flow path and direction for all storm water conveyance sections;
(5) watershed boundaries used in hydrology determinations to show compliance with the performance standards, locations of utilities, roads, and easements; and
(6) significant natural and manmade features not otherwise shown.

5) *Soils Information*

(a) If a stormwater management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted.
(b) The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil sits shall be determined based on what is needed

to determine the suitability and distribution of soil types present at the location of the control measure.

6) *Post Developed Site Conditions* - A map of the site not exceeding 1"=100' scale which extends a minimum of 300 feet beyond the limits of the proposed development and shows the following:

(a) post-construction pervious areas including vegetative cover type and condition, impervious surfaces including all buildings, structures, and pavement, post-construction topographic contours of the site at intervals not to exceed five (5) feet where the slope is greater than 10% and not more than two (2) feet when the slope is less than 10%;
(b) post-construction drainage network;
(c) dimensions of drainage easements;
(d) locations of maintenance easements specified in the maintenance agreement;
(e) flow path and direction for all storm water management conveyance and treatment practices, including on-site and off-site tributary drainage areas;
(f) watershed boundaries used in hydrology determinations to show compliance with the performance standards, locations of utilities, and roads, and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.

C) Technical Information Report.

1) Location Factors

(a) Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands; and
(b) A detailed narrative explanation of any restriction on storm water management measures in the development area imposed by wellhead protection plans and ordinances.

2) *Design Calculations* - Design calculations are required as part of the stormwater permit application package and shall, at a minimum, specifically include:

(1) Estimation of stormwater runoff. Runoff rates during the required storm durations; C-values or SCS runoff curve numbers; and computed times of concentration.
(2) Drainage area calculations.
(3) Weighted curve number or runoff coefficient computations.
(4) Time of concentration computation indicating overland flow time, shallow concentrated flow time, and flow time in the swale, gutter, pipe or channel.
(5) Inlet grate and gutter flow computations.
(6) Closed Conduit and open channel design computations, including:
a) Size of pipe or channel cross section;
b) Pipe or channel inverts slope in percent;
c) Material and roughness coefficient; and
d) Flowing velocities in feet per second.

(7) Design capacity in cubic feet per second.
(8) Storm drain flow and hydraulic grade line (HGL) computations.
(9) Detention / Retention Summary Information.

D) Erosion & Sediment Control Plan & Details – the Erosion and Sediment Control Plan submitted shall include all documents and information required within 327 IAC 15-5.

E) BMP Calculations and Schedules – pertinent calculations illustrating the water quality volumes, etc. along with the installation schedule and maintenance requirements shall be submitted for each BMP selected.

F) Operation & Maintenance Manual for BMPs – an operations and maintenance (O&M) manual for BMPs (when required) shall be submitted for the final plan approval and permit process and will become a compliance guideline for the BMP once development is complete. The O&M manual will include the following:

1) BMP owner name, address, business phone number, home phone number, email address, cellular phone number, pager number;
2) Site drawings (8½" x 11"), showing both plan and cross-section views, showing the BMP and applicable features, including dimensions, easements, outlet works, forebays, signage, etc.;
3) Guidance on owner-required periodic inspections and identification of inspection certification requirement to the administering authority;
4) Requirement of owner to perform maintenance specified by administering authority inspection, if any;
5) Guidance on routine maintenance, including mowing, litter removal, woody growth removal, signage, etc.;
6) Guidance on remedial maintenance, such as inlet replacement, outlet works maintenance, etc.;
7) Guidance on sediment removal, both narrative and graphical, describing when sediment removal should occur in order to insure that the BMP remains effective as a water quality and/or quantity control device;
8) A statement that the administering authority's representatives have the right to enter the property to inspect the BMP;
9) A tabular schedule showing inspection and maintenance requirements; and
10) Identification of the property / BMP owner as the party responsible for maintenance, including costs

G) Financial Guarantees – as required in Section 207 herein.

205.03 Application Review Fees - The application package shall be accompanied by a fee for plan review and a fee for on-site inspections of implementation of requirements of this Ordinance. These fees shall be as follows and in addition to all other local fee(s) charged for development and building:

A) Storm Water Management Plan Review Fee = 0.125% of cost of proposed improvements; and

B) On-site Inspections for Storm Water Management = 0.625% of cost of proposed improvements.

C) All stormwater review fees due and owing, including any other permit or building fees, must be paid in full prior to commencement of construction.

205.04 Application Procedures.

A) Applications for Site Development Permits must be filed (i.e. delivered) with the administering authority on any regular business day.

B) Permit applications shall include: four (4) copies of the construction plans and erosion & sediment control plan & details; four (4) copies of all remaining required elements; and full payment of any required review fees.

C) The administrative authority shall determine if the application package is complete within ten (10) business days of receipt of items noted in Section 205.4(B). If application package is determined incomplete, the review period indicated in Section 206.1 shall not commence.

205.05 Permit Conditions.

A) General Conditions - All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions:

1) The administering authority **may suspend or revoke** a permit for violation of a permit condition, following written notification to the responsible party.

2) An action by the administering authority to suspend or revoke this permit may be appealed in accordance with Section 210.

3) Compliance with this permit does not relieve the responsible party of the responsibility to comply with other applicable federal, state, and local laws and regulations.

4) The responsible party shall design and install all runoff pollution prevention and / or stormwater treatment BMPs in accordance with the approved storm water management plan and this permit.

5) The responsible party shall notify the administering authority at least two (2) business days before commencing any work in conjunction with the storm water management plan.

6) The responsible party shall notify the administering authority of any significant modifications it intends to make to an approved storm water management plan. The administering authority may require that the proposed modifications be submitted to it for approval prior to incorporation into the storm water management plan and execution by the responsible party.

7) The responsible party shall maintain all storm water management practices in accordance with the storm water management plan until the practices either become the responsibility of the Town, or are transferred to subsequent private owners as specified in the approved maintenance agreement.

8) The responsible party authorizes the administrative authority to perform any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consents to a special assessment or charge against the property or to charging such costs against the financial guarantee posted under Section 207.

205.06 Permit Duration.

A) Initial Term: The permit shall be valid for the shorter of five (5) years from the date of issuance, or until:
   1) The permit is revoked through enforcement action;
   2) The permit is transferred; or
   3) The permit is terminated as stated in Section 205.6(B).

B) Permit Termination: Upon completion of all construction activities associated with the site development permit, the applicant shall submit a Notice of Termination (NOT) letter to the MS4 Operator. Termination of Permit will be issued by the MS4 Operator only if the following conditions are met:

   1) All land disturbing activities, including construction on all building lots, have been completed and the entire site has been stabilized.

   2) All public and common improvements, including infrastructure, have been completed and permanently stabilized and have been transferred to the appropriate local entity.

   3) The applicant may submit an NOT letter to obtain early release from compliance with this rule if the following conditions are met:

      (a) The remaining, undeveloped acreage does not exceed five (5) acres, with contiguous areas not to exceed one (1) acre.
      (b) A map of the project site, clearly identifying all remaining undeveloped lots, is attached to the NOT letter. The map must be accompanied by a list of names and addresses of individual lot owners or individual lot operators of all undeveloped lots.
      (c) The remaining acreage does not pose a significant threat to the integrity of the infrastructure, adjacent properties, or water quality.
      (d) All permanent storm water quality measures have been implemented and are operational.

Section 206: Stormwater Management Plan Review and Approval.

206.01 Review Period.

A) Within 28 days after the receipt of a completed permit application, including all documents and fees as required by this ordinance, the administering authority shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved.

B) If the project site owner does not receive notification within twenty-eight (28) days after the completed permit application is received by the administering authority stating that the plan is disapproved, the project site owner may submit the Notice of Intent (NOI) letter information to IDEM in accordance with 327 IAC 15-5-6(a) and Section 207.2 below.

C) If notification of a disapproved plan is received after the review period outlined above and following commencement of construction activities, the plans must be modified to meet the requirements of the ordinance and resubmitted within fourteen (14) days of receipt of the notification of disapproved plans.

D) The initiation of construction activity following notification by the administering authority that the plan does not meet the requirements of this ordinance is a violation and subject to enforcement action.

206.02 Review Actions Available.

A) *Approve:* the permit application is found to be completely consistent with the requirements within this ordinance the administering authority shall issue a Notice of Plan Approval (NPA).

B) *Approve with conditions:* the permit application is generally consistent with the requirements within this ordinance, but specific minor modification are required to meet all of the applicable requirements. Therefore, the administering authority shall issue the permit subject to these written conditions along with a Conditional Notice of Plan Approval (CNPA); or

C) *Disapprove:* the permit application does not meet the requirements of this ordinance and requires modifications that would result in significant changes to the Construction Plan, or Erosion & Sediment Control Plan. Therefore, the administering authority shall disapprove the application indicating the reason(s) and procedure for submitting a revised application and/or submission.

206.03 Notification to the Indiana Department of Environmental Management.

A) The Developer must include the NPA or CNPA as verification of plan approval; and

B) A Notice of Intent (NOI) sent to the Director of IDEM in accordance with 327 IAC 15-5-6(a) at least forty-eight (48) hours prior to any land-disturbing activities.

Section 207: Financial Guarantee and As-Built Documents.

207.01 Performance Bonds or Irrevocable Letter of Credit for Stormwater Treatment BMPs.

A) The applicant will be required to file with the Town of Lowell a faithful performance bond, letter of credit, or other improvement security prior to the issuance of any permit to insure that the stormwater practices are timely and properly installed by the permit holder as required by the approved stormwater management plan.

B) The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan. The amount of the installation security shall be the total estimated construction cost plus 20% of the stormwater management practices approved under the permit, including but not limited to:

1) Total installed cost for storm drain pipe, culvert, manhole, and box inlet installation;
2) Total cost for site filling and grading, including construction of open drainage swales and detention / retention facilities, landscaping, and
3) Engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site.

207.02 Maintenance Bonds

A) Prior to the release of the performance surety, a maintenance surety will be required.

B) This surety will be in an amount deemed sufficient by the MS4 Operator to cover all costs of maintenance of improvements and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site and cover a period of two (2) years from the date of acceptance by the administering authority.

207.03 As-Built Documents Required

A) As part of the final acceptance process, As-Built Documents, being plans and calculations of the as-built conditions, of the stormwater facilities shall be submitted to the administering authority, as set forth herein, for each of the following types of developments:

1) All platted subdivisions.
2) All Industrial and commercial sites.

B) As-Built drawings shall be prepared and certified by either a Registered Land Surveyor or Professional Engineer licensed in the State of Indiana and provide the following information:
1) Building pad elevations;
2) Structure inverts, pipe inverts, top-of-casting elevation and the flow line of rear and/or side yard swales at fifty (50) foot intervals or at lot lines;
3) Horizontal alignment of storm drain pipes, culverts, streets, and storm drain structures, to a minimum accuracy of +/- two (2) feet;

4) The horizontal location and/or bank cross sections for all detention/retention facilities or other information sufficient to verify that the constructed detention/retention facility provides the required minimum runoff storage volume; and
5) A tag reference to the operations and maintenance manual for each BMP will be included.

C) All as-built plans shall be submitted in both an approved digital format and a paper copy.

1) The digital submittal will be in a format compatible with Lake County's Geographical Information System (GIS) database.
2) If notice of non-compliance is not given within thirty (30) calendar days from the date of submission of As-Built Documents, the documents shall be construed as approved.

207.04 Release of Sureties.

A) Notice of scheduled date for completion of construction shall be provided to the administering authority at least seventy-two (72) hours prior to its planned completion.

B) The Contractor or Owner will schedule the final inspection with the administering authority's observer.

C) A Bond or Letter of Credit will NOT be released by the Town Council until final approval and acceptance of all improvements has been made.

Section 208: Site Inspections and Maintenance Provisions.

208.01 Notice of Construction Commencement

A) The applicant must notify the administering authority forty-eight (48) hours in advance before the commencement of construction.

B) It shall be a condition of every site development permit that the administering authority has the right to enter the construction project site periodically to inspect for compliance with the site development permit and this ordinance.

208.02 Inspections During Construction

A) By Permitted Project Owner – The permittee shall maintain a copy of the approved Stormwater Management Plan on site. When required, the permittee shall designate a responsible person for "self-monitoring" and provide all contact information for such individual to the administering authority. Self-monitoring shall be conducted within twenty-four (24) hours of a measurable rain event, or at minimum once per week. All inspections shall be documented and written reports prepared that contain the following information:

1) The date and location of the inspection.
2) Whether construction is in compliance with the approved stormwater management plan.

3) Any remedial action needed to maintain compliance with the approved stormwater management plan.
4) Schedule and designated party for proposed remedial actions.
5) Written reports shall be kept on-site and be made available to the administering authority within forty-eight (48) hours of request for review.

B) By Administering Authority – Regular inspections of the stormwater management system construction shall be conducted by the staff of the administering authority. All inspections shall be documented and written reports prepared that contain the following information:

1) The date, location and name of inspector.
2) Whether construction is in compliance with the approved stormwater management plan.
3) Variations from the approved construction specifications.
4) Any violations that exist.
5) Inspectors shall notify the on-site personnel or the developer in writing when violations are being observed, describing items to address and actions to be taken.

208.03 Post Construction

A) Maintenance Agreement Required

1) A maintenance agreement shall be required for storm water management practices and shall be an agreement between the Town and the responsible party to provide for maintenance of storm water practices beyond the duration period of this permit.

2) The maintenance agreement shall be filed with the County Recorder as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management practices.

B) Maintenance Covenants - The maintenance agreement shall contain the following information and provisions:

1) Identification of the storm water facilities and designation of the drainage area served by the facilities.

2) A schedule for regular maintenance of each aspect of the storm water management system consistent with the storm water management plan required under Section 5 and the requirement that the responsible party(s), organization, or city, county, or town shall maintain the practices in accordance with the schedule.

3) Identification of the responsible party(s), organization or city, county, or town responsible for long term maintenance of the storm water management practices identified in the storm water management plan required under Section 205.

4) Authorization for the administrative authority to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being

maintained and operated in accordance with the agreement. The party responsible for long term maintenance of the storm water management practices, shall be notified by the administrative authority of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the administering authority.

5) Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least five (5) years. These records shall be made available to the administrative authority during inspection of the facility and at other reasonable times upon request.

6) At minimum, annual inspection of the stormwater management facility shall be the responsibility of the party responsible for the long term maintenance of the storm water management practices. Record of the inspection and certification by a qualified individual that the stormwater management system has been adequately maintained shall be submitted to the administering authority.

7) Authorization of the administering authority to perform the corrected actions identified in the inspection report if the responsible party for the long term maintenance of the storm water management practices does not make the required corrections in the specified time period. The administering authority shall enter the amount due on the tax rolls and collect the money as a special charge against the property.

8) The Town Council, upon the recommendation of the Stormwater Management Board, in lieu of a maintenance covenant, may accept dedication of any existing or future stormwater management facility for maintenance, provided such facility meets all the requirements of this Ordinance and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

Section 209: Enforcement.

209.01 Violations.

A) Any land disturbing construction activity or stormwater runoff initiated after the effective date of this ordinance by any person, firm, association, or corporation subject to the ordinance provisions this ordinance shall be deemed a violation unless conducted in accordance with all terms, conditions and requirements of this ordinance.

B) The MS4 Operator shall issue a Notice of Violation to any person holding a site development permit that violates any term or condition contained in the permit, any provisions of this ordinance or to any person who implements any site development in such a manner as to:

1) Adversely affect the health, welfare, or safety of persons residing or working in the neighborhood or development; or
2) Is detrimental to the public welfare or injurious to prosperity or improvements in the neighborhood or development.

209.02 Notice of Violation - Types.

A) *Written Notice of Violation* indicating actions deemed contrary to the permit which are required to be corrected and brought into compliance within 48 hours or other specified period of time. An alternative period of time shall take into account issues such as the severity of the problem, pending weather, seasonal conditions, and the level of effort necessary to correct the problem.

B) *Stop-Work Order; Revocation of Permit* in writing to any persons engaged in the doing or causing of such work to be done in violation of this ordinance, and all persons shall receiving notice of such order shall immediately cease all work until authorized by the MS4 Operator in writing to proceed with work.

209.03 Penalties.

A) No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, contrary to or in violation of any terms of this ordinance.

B) Any person violating any of the provisions of this ordinance be subject to the general penalties provided for by § 10.99 of the Lowell Municipal Code.

C) In addition to any other penalty authorized by §10.99, any person, partnership, corporation or other entity convicted of violating any of the provision of this ordinance shall also be required to bear all costs and expenses of restoration.

Section 210: Appeals.

210.01 Appeals Process.

A) Upon receipt of a written notice of violation or stop work order against a site development permit, the Developer may file a written appeal to the Lowell Stormwater Management Board via certified mail or hand delivery to the office of the Community Development Director for review.

B) All such appeals shall be in writing, under oath, and must be delivered within five (5) business days of receipt of any written notice of violation or stop work order or the Developer shall be deemed to have waives their right to any appeal.

210.02 Appeal Authority.

A) The Board shall complete its review within sixty (60) days of receipt of a proper and timely filed request for appeal.

B) The Board's determination on the appeal shall be in writing and set forth in detail the reason for its decision.

C) In evaluating the appeal, the Board shall be strictly bound by the standards and review criteria contained or referenced in this ordinance.

D) All determinations of the Board arising out of any appeal shall be final.

Section 211: Severability - Effective Date.

211.01 Severability. The provisions and sections of this ordinance shall be deemed to be separable, and the invalidity of any portion of this ordinance shall not affect the validity of the remainder.

211.02 Effective Date. This Ordinance shall be effective upon passage, any IDEM review, and any publication required according to law.

DULY ORDAINED and ADOPTED the 28th day of December, 2006 by a vote of 4 ayes and 0 nays.

David Gard, President

Philip Kuiper, Vice President

Al Bachman, Member

Donald Huseman, Member

Cynthia "Polly" Roberts, Member

Attest: Judith Walters
Judith Walters, Clerk-Treasurer

Approved by the Executive the 28th day of December, 2006. (I.C. 36-5-2-10)

David Gard, President

Attest: Judith Walters
Judith Walters, Clerk-Treasurer

Advertised: _____, *2006*	*Public Hearing:* _____, *2006*
1st Reading: _____, *2006*	*Rules Suspended:* ___ *Yes* ___ *No*
2nd Reading: _____, *2006*	*Advertised:* _____, *2006 (if new penalty)*