

Comparison of Maintenance and Inspection Methods from Nationwide Jurisdictions

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on behalf of the North Central Texas Council of Governments (NCTCOG)**

In recent years, federal regulations and popular trends have helped to redirect the focus of stormwater management in new development and redevelopment. As this focus shifts more towards water quality and low impact development, there are many obstacles that governing entities must face to implement post-construction water quality requirements. One major hurdle is the increase in maintenance and inspection that is required for these facilities and how those issues are actually enforced. Part of the requirements of the Phase II MS4 permit is that the permittee shall “ensure adequate long-term operation and maintenance of BMPs.” (Part III, A. 5. (c) of the TPDES General Permit No. TXR040000). The TPDES General Permit TXR040000 (issued and effective on August 13, 2007) expired on August 12th 2012. The TCEQ is currently working to renew the general permit for small MS4s. The proposed general permit modifies the requirements for maintenance and inspection of long-term maintenance of post-construction stormwater control measures in Part III, B.4.(b)(3). According to the draft permit, “all permittees shall, to the extent allowable under State and Local law, ensure the long-term operation and maintenance of structural stormwater control measures installed” by either the permittee or by the owner or operator of a new development or redeveloped site. If the maintenance is the responsibility of the owner or operator, a maintenance plan is required and must be filed in the property records of the county. In addition, documentation of operation and maintenance performed is required to be retained on site and made available for review.

The draft permit also provides requirements for the inspections of post construction stormwater control measures in Part III, B.3(c)(1). The permit states that “permittees who operate level 4 small MS4s shall develop and implement an inspection program to ensure that all post construction stormwater control measures are operating correctly and are being maintained as required consistent with its applicable maintenance plan. For small MS4s with limited enforcement authority, this requirement applies to the structural controls owned and operated by the small MS4 or its contractors that perform these activities within the small MS4’s regulated area.” In the draft permit, a level 4 small MS4 consists of jurisdictions with a population greater than 100,000. In addition, the permit states that the permittee is requirement to document inspection findings in an inspection report for TCEQ review.

There are a number of jurisdictions across the United States that have already begun to implement these concepts into their codes. FNI reviewed the maintenance, inspection and enforcement regulations of several jurisdictions nation-wide and within Texas to gain insight on how other communities address these issues. The jurisdictions include:

<i>Austin, TX</i>	<i>Westminster, CO</i>
<i>Houston, TX</i>	<i>Portland, OR</i>
<i>Brazoria County, TX</i>	<i>Seattle, WA</i>
<i>Guilford County, NC</i>	<i>Charlotte, NC</i>
<i>Seymour, CT</i>	<i>Irvine, CA</i>

This memo summarizes our findings related to each of the seven categories listed below. The intent is to provide a thorough description of how other cities and counties across the country are addressing these issues in their ordinances so that cities adopting iSWM might have a useful reference to develop their own water quality ordinance. Tables 1 through 7 in *Appendix A* give a tabular comparison of the water quality requirements from each jurisdiction for the categories listed below. Item 4, Waste Management, does not have a table in Appendix A for reasons explained in the memo under that section. The actual ordinance language from each jurisdiction is provided in *Appendix C*.

- | | |
|---------------------------------|---------------------------------------|
| 1. Private vs. Public Ownership | 5. Inspections of stormwater controls |
| 2. Construction Inspections | 6. Appeals |
| 3. Operations and Maintenance | 7. Variances |
| 4. Waste Management | 8. Enforcement Actions |

PRIVATE VS. PUBLIC OWNERSHIP

Private versus public ownership refers to who is deemed the responsible party of stormwater controls after they have been constructed. The following statements summarize the trends in language found across the 10 jurisdictions:

PRIVATE:

1. All controls shall be privately owned and maintained by the property owner or HOA

PUBLIC:

2. If the facility is located in a residential area without a Home Owner's Association (HOA), the City will take ownership of said facility after it has been constructed to the City's specifications.
3. If the facility receives runoff from a public ROW, then it is owned and maintained by the City.
4. A developer may request the City to maintain a facility. If approved, the developer would have to contribute to a stormwater maintenance fund the sum of money equal to the estimated cost (with inflation) of 10-20 years of maintenance.
5. Facilities that will be under City maintenance must go thru a 2-year warranty period after construction with 4 periodic inspection reports within the 2-year period and must pass all inspections.

All jurisdictions that were studied specified that all controls shall be privately owned. However, a few of the jurisdictions also specified certain circumstances in which the ownership of the stormwater control might be transferred to the local jurisdiction.

CONSTRUCTION INSPECTIONS

Construction inspection refers to how a city will monitor the installation of stormwater controls as they are constructed. In the review of several jurisdictions requirements for inspection of stormwater controls during construction there were three main methods commonly used. The main methods of construction inspections include the following:

1. Use the standard construction inspections procedure (i.e. – no special requirements for controls).
2. Provide specific, minimum inspection requirements within the water quality ordinance.
3. Require periodic inspections during construction at times specified ranging from once every 14 days to once during the rainy season.

Common language in construction inspection required that the inspection is performed by a private entity.

OPERATIONS AND MAINTENANCE (O&M)

Operations and maintenance refers to the performance and on-going up-keep of a stormwater control after construction has finished. Jurisdictions that were studied typically used one or more of the requirements listed below to develop an operation and maintenance plan.

1. O&M plan is required with the final plat detailing the responsible party, maintenance requirements, and method to provide maintenance funding.
2. An Operations and Maintenance template or standard form may be provided by the City or other entity.
3. An annual permit or inspection report is required for each control. A maintenance form or inspection report is provided.
4. Maintenance logs are required to be kept on site and made available to the City when requested.

Commonalities in operations and maintenance language include the requirement that an O&M plan must be developed and submitted toward the end or at the completion of the construction process.

WASTE MANAGEMENT

Waste management refers to the disposal of stormwater control materials during regular maintenance that may be considered contaminated based on the pollutants that they are treating. While researching the requirements of jurisdictions around the country no ordinance language was found regarding the management and disposal of waste from stormwater controls. An option for cities looking to address this concern could include following existing hazardous waste disposal requirements. *Appendix A* does not include a table for waste management because no data was recorded for comparison.

INSPECTIONS OF STORMWATER CONTROLS

The *inspection of stormwater controls* refers to the examination of installed stormwater controls to see if they are operating properly and have been maintained. The review of several jurisdictions found that a main difference in requirements had to do with whether the inspections were performed by a private entity or by a city employee. The different options for each scenario are provided below.

If the ordinance requires stormwater controls to be privately inspected:

1. The City may provide or reference sample inspection checklists for each stormwater control
2. A professional engineer or landscape architect shall perform the inspection at a defined interval, typically once a year
3. Documentation of inspections must be kept and made available to the City upon request and/or upon completion of the inspection
4. Inspection intervals are quarterly for the first 2 years, twice a year thereafter, and within 48 hours of a major rainfall event
5. The City reserves the right to inspect and enforce maintenance as required

If the ordinance specifies that the City is responsible for stormwater control inspections:

1. The City will inspect the stormwater control at an interval of every 1 to 3 years.
2. If a project fails inspection, owner is notified to correct the issue and is charged a re-inspection fee.

Appendix B contains an example of a post-construction stormwater control inspection checklist from Santa Barbara, California. Santa Barbara has adopted a guidance manual for stormwater controls but has not yet adopted a formal water quality ordinance. Therefore, information from Santa Barbara was not utilized in the ordinance language comparison contained in this memo.

APPEALS

Appeals refer to owners protesting a determination of violation from inspection or through facility operations and maintenance. Three methods that jurisdictions use to address these appeals are provided below:

1. Use the City's standard appeals process.
2. Present appeal to group or person designated to hear appeals regarding stormwater controls.
3. Submit a written request to appeal within 10-30 days following notification.

VARIANCES

Variations refer to procedures that an owner or developer can take if they believe that their property or development should be exempt from the usual requirements of stormwater control maintenance and inspection. The different methods that the studied jurisdictions have in place for handling of these variations are provided below.

1. Variations must show that the water quality will not be impacted by the variance and that the intent of the ordinance is met.
2. Use standard variance procedure.
3. Variations may be reviewed by a designated committee that reviews the variance and submits a recommendation to the determining entity.
4. Have a path for minor variations that may be granted by one person and major variations that require the approval of a committee or department.
5. If full implementation is not feasible, then the applicant may participate in off-site facilities development by contributing \$2.00-\$4.00 per square foot of unmanaged impervious surface.
6. Standards for granted variations are listed as unnecessary hardship, peculiar property conditions, or variance is consistent with the spirit, purpose, and intent of the ordinance.

ENFORCEMENT ACTIONS

Enforcement actions refer to the penalties that an owner will incur if they fail to comply with a city's requirements regarding inspections, operations, and maintenance. Jurisdictions use several different options in order to enforce their ordinance requirements and examples are listed below.

1. The City can suspend a permit, site plan, and certificate of occupancy, right-of-way use, or variations.
2. The owner is subject to fines of an amount ranging from \$300 to \$5,000 per violation per day.

3. If maintenance requirements are not met within 30 days, the City may perform maintenance and assess the cost to the owner of the property.
4. The City may institute an injunction and order of abatement. If the violation presents a danger to the health of the community, then costs associated with required corrective measures may be assessed as a lien on the property, and the City may issue an order of restoration in addition to civil penalties.

It is the responsibility of each individual city to determine which measures are best suited for their communities in handling the maintenance and inspection of existing or future stormwater controls. In many cases, jurisdictions chose multiple options for each category to develop comprehensive ordinance language.

Appendix A

Jurisdiction Comparison Tables

COMPARISON OF ORDINANCE LANGUAGE REGARDING: PRIVATE VS. PUBLIC OWNERSHIP										
Description	Texas			Nationwide						
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA
1 PRIVATE: All controls privately owned and maintained	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2 PUBLIC: If the facility is located in a residential area without a Home Owner's Association (HOA), the City will take ownership of said facility after it has been constructed to the City's specifications.	✓									
3 PUBLIC: If the facility receives runoff from a public ROW, then it is owned and maintained by the City.							✓		✓	
4 PUBLIC: A developer may request the City to maintain a facility. If approved, the developer would have to contribute to a stormwater maintenance fund the sum of money equal to the estimated cost (with inflation) of 10-20 years of maintenance.		✓								
5 PUBLIC: Facilities that will be under City maintenance must go thru a 2-year warranty period after construction with 4 periodic inspection reports within the 2-year period and must pass all inspections.									✓	

COMPARISON OF ORDINANCE LANGUAGE REGARDING: CONSTRUCTION INSPECTIONS										
Description	Texas			Nationwide						
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA
1 Use the standard construction Inspections procedure		✓		✓		✓	✓	✓		
2 Provide specific, minimum inspection requirements within the water quality ordinance					✓				✓	
3 Require periodic inspections during construction at specified times ranging from once every 14 days to once during the rainy season			✓						✓	✓

COMPARISON OF ORDINANCE LANGUAGE REGARDING: OPERATIONS AND MAINTENANCE										
Description	Texas			Nationwide						
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA
1 O&M plan is required with the final plat detailing the responsible party, maintenance requirements, and method to provide maintenance funding.		✓	✓		✓		✓		✓	✓
2 An Operations and Maintenance template or standard form may be provided by the City or other entity				✓		✓	✓	✓		
3 An annual permit or inspection report is required for each control. A maintenance form or inspection report is provided.	✓									
4 Maintenance logs are required to be kept on site and made available to the City when requested.							✓			

COMPARISON OF ORDINANCE LANGUAGE REGARDING:		INSPECTIONS OF STORMWATER CONTROLS									
Description	Texas			Nationwide							
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA	
Private Inspections											
1	The City may provide or reference sample inspection checklists for each stormwater control			✓			✓				
2	A professional engineer or landscape architect shall perform the inspection at a defined interval, typically once a year			✓			✓				
3	Documentation of inspections must be kept and made available to the City upon request and/or upon completion of the inspection						✓				
4	Inspection intervals are quarterly for the first 2 years, twice a year thereafter, and within 48 hours of a major rainfall event						✓				
5	The City reserves the right to inspect and enforce maintenance as required			✓			✓	✓	✓	✓	✓
Public Inspections											
1	The City will inspect the stormwater control at an interval of every 1 to 3 years			✓			✓				✓
2	If a project fails inspection, the owner is notified to fix the problem and is charged a re-inspection fee			✓						✓	

COMPARISON OF ORDINANCE LANGUAGE REGARDING:		APPEALS									
Description	Texas			Nationwide							
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA	
1	Using the City's standard appeals process						✓			✓	✓
2	Present appeal to a designated informed person/director or group chosen to hear appeals regarding stormwater controls			✓			✓		✓		
3	Submitted a written request to appeal within 10-30 days following notification				✓	✓	✓		✓		

COMPARISON OF ORDINANCE LANGUAGE REGARDING:		VARIANCES									
Description	Texas			Nationwide							
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA	
1	Variances must show that the water quality will not be impacted by the variance and that the intent of the ordinance is met			✓							
2	Use standard variance procedure				✓	✓		✓		✓	
3	Variances may be reviewed by a designated committee that reviews the variance and submits a recommendation to the determining entity							✓		✓	
4	Have a path for minor variances that may be granted by one person and major variances that require the approval of a committee or department						✓				
5	If full implementation is not feasible, then the applicant may participate in off-site facilities development by contributing \$2.00-\$4.00 per square foot of unmanaged impervious surface							✓			
6	Standards for granted variances are listed as unnecessary hardship, peculiar property conditions, or variance is consistent with the spirit, purpose, and intent of the ordinance.									✓	✓

COMPARISON OF ORDINANCE LANGUAGE REGARDING:		ENFORCEMENT									
Description	Texas			Nationwide							
	Austin	Houston	Brazoria County	Guilford County, NC	Seymour, CT	Westminster, CO	Portland, OR	Seattle, WA	Charlotte, NC	Irvine, CA	
1	The City can suspend a permit, site plan, plat recordation, utility connections, certificate of occupancy, right-of-way use, or variances.			✓	✓					✓	
2	The owner is subject to fines of an amount ranging from \$300 to \$5,000 per violation per day						✓	✓	✓	✓	✓
3	If maintenance requirements are not met within 30 days, the City may perform maintenance and assess the cost to the owner of the property							✓	✓		✓
4	The City may institute an injunction and order of abatement. If the violation presents a danger to the health of the community, then costs associated with required corrective measures may be assessed as a lien on the property, and the City may issue an order of restoration in addition to civil penalties.							✓		✓	✓

Appendix B

Inspection Checklists

(From Appendix H of the “City of Santa Barbara Storm Water BMP Guidance Manual”, June 2008)

APPENDIX H FACILITY INSPECTION AND MAINTENANCE CHECKLISTS

Included in this appendix are a series of checklists that can be used by both inspectors and maintenance personnel to ensure that observed deficiencies in BMPs are maintained appropriately. The BMP Inspection/Maintenance Checklists are presented in the following order:

1. Bioretention/Planter Box
2. Vegetated Swale Filter
3. Vegetated Filter Strip
4. Sand Filter
5. Infiltration BMPs
6. Permeable Pavement
7. Constructed Treatment Wetland
8. Wet Retention Basin
9. Dry Extended Detention Basin
10. Proprietary Devices

1. Bioretention/Planter Box Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1, or 2) [†]	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance	Untidy			
Trash and Debris Accumulation	Trash, plant litter and dead leaves accumulated on surface.			
Vegetation	Unhealthy plants and appearance.			
Irrigation	Functioning incorrectly (if applicable).			
Inlet	Inlet pipe blocked or impeded.			
Splash Blocks	Blocks or pads correctly positioned to prevent erosion.			
Overflow	Overflow pipe blocked or broken.			
Filter media	Infiltration design rate is met (e.g., drains 36-48 hours after moderate - large storm event).			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

2. Vegetated Swale Filter Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1, or 2) [†]	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance	Untidy			
Trash and Debris Accumulation	Trash and debris accumulated in the swale.			
Vegetation	When the grass becomes excessively tall (greater than 10-inches); when nuisance weeds and other vegetation start to take over.			
Excessive Shading	Vegetation growth is poor because sunlight does not reach swale. Evaluate vegetation suitability.			
Poor Vegetation Coverage	When vegetation is sparse or bare or eroded patches occur in more than 10% of the swale bottom. Evaluate vegetation suitability.			
Sediment Accumulation	Sediment depth exceeds 2 inches or covers more than 10% of design area.			
Standing Water	When water stands in the swale between storms and does not drain freely.			
Flow spreader or Check Dams	Flow spreader or check dams uneven or clogged so that flows are not uniformly distributed through entire swale width.			
Constant Baseflow	When small quantities of water continually flow through the swale, even when it has been dry for weeks and an eroded, muddy channel has formed in the swale bottom.			
Inlet/Outlet	Inlet/outlet areas clogged with sediment and/or debris.			
Erosion/ Scouring	Eroded or scoured swale bottom due to flow channelization, or higher flows. Eroded or rilled side slopes.			
	Eroded or undercut inlet/outlet structures			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

3. Vegetated Filter Strip Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1 or 2) [†]	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance	Untidy			
Trash and Debris Accumulation	Trash and debris accumulated on the filter strip.			
Vegetation	When the grass becomes excessively tall (greater than 10-inches); when nuisance weeds and other vegetation starts to take over.			
Excessive Shading	Grass growth is poor because sunlight does not reach swale. Evaluate grass species suitability.			
Poor Vegetation Coverage	When grass is sparse or bare or eroded patches occur in more than 10% of the swale bottom. Evaluate grass species suitability.			
Erosion/Scouring	Eroded or scoured areas due to flow channelization, or higher flows.			
Sediment Accumulation on Grass	Sediment depth exceeds 2 inches.			
Flow spreader	Flow spreader uneven or clogged so that flows are not uniformly distributed through entire filter width.			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

4. Sand Filter Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Trash & Debris	Any trash and debris which exceed 5 cubic feet per 1,000 square feet of filter bed area (one standard garbage can). In general, there shall be no visual evidence of dumping. If less than threshold all trash and debris will be removed as part of next scheduled maintenance.			
Inlet erosion	Visible evident of erosion occurring near flow spreader outlets.			
Slow drain time	Standing water long after storm has passed (after 24 to 48 hours) and/or flow through the overflow pipes occurs frequently.			
Concentrated Flow	Flow spreader uneven or clogged so that flows are not uniformly distributed across the sand filter.			
Appearance of poisonous, noxious or nuisance vegetation	Excessive grass and weed growth. Noxious weeds, woody vegetation establishing, Turf growing over rock filter			
Standing Water	Standing water long after storm has passed (after 24 to 48 hours), and/or flow through the overflow pipes occurs frequently.			
Tear in Filter Fabric	When there is a visible tear or rip in the filter fabric allowing water to bypass the fabric.			
Pipe Settlement	If piping has visibly settled more than 1 inch.			
Filter Media	Drawdown of water through the media takes longer than 1 hour and/or overflow occurs frequently.			
Short Circuiting	Flows do not properly enter filter cartridges.			

†Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

5. Infiltration BMP Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) [†]	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance, vegetative health	Mowing and trimming vegetation is needed to prevent establishment of woody vegetation, and for aesthetic and vector reasons.			
Vegetation	Poisonous or nuisance vegetation or noxious weeds.			
	Excessive loss of turf or ground cover (if applicable).			
Trash & Debris	Trash and debris > 5 cf/1,000 sf (one standard size garbage can).			
Contaminants and Pollution	Any evidence of oil, gasoline, contaminants or other pollutants.			
Erosion	Undercut or eroded areas at inlet or outlet structures.			
Sediment and Debris	Accumulation of sediment, debris, and oil/grease on surface, inflow, outlet or overflow structures.			
Sediment and Debris	Accumulation of sediment and debris, in sediment forebay and pretreatment devices.			
Water drainage rate	Standing water, or by visual inspection of wells (if available), indicates design drain times are not being achieved (i.e., within 72 hours).			
Media clogging surface layer	Lift surface layer (and filter fabric if installed) and check for media clogging with sediment (function may be able to be restored by replacing surface aggregate/filter cloth).			
Media clogging	Lift surface layer (and filter fabric if installed) and check for media clogging with sediment (partial or complete clogging which may require full replacement).			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

6. Permeable Pavement Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Sediment Accumulation	Sediment is visible			
Missing gravel/sand fill	There are noticeable gaps in between pavers			
Weeds/mosses filling voids	Vegetation is growing in/on permeable pavement			
Trash and Debris Accumulation	Trash and debris accumulated on the permeable pavement.			
Dead or dying vegetation in adjacent landscaping	Vegetation is dead or dying leaving bare soil prone to erosion			
Surface clog	Clogging is evidenced by ponding on the surface			
Overflow clog	<ul style="list-style-type: none"> • Excessive build up of water accompanied by observation of low flow in observation well (connected to underdrain system) • If a surface overflow system is used, observation of an obvious clog 			
Visual contaminants and pollution	Any visual evidence of oil, gasoline, contaminants or other pollutants.			
Erosion	Tributary area <ul style="list-style-type: none"> • Exhibits signs of erosion • Noticeably not completely stabilized 			
Deterioration/ Roughening	Integrity of pavement is compromised (i.e., cracks, depressions, crumbling, etc.)			
Subsurface Clog	Clogging is evidenced by ponding on the surface and is not remedied by addressing surface clogging.			

† Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

7. Constructed Treatment Wetland Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Trash & Debris	Any trash and debris which exceed 5 cubic feet per 1,000 sf of basin area (one standard garbage can). In general, there shall be no visual evidence of dumping. If less than threshold all trash and debris will be removed as part of next scheduled maintenance. If trash and debris is observed blocking or partially blocking an outlet structure or inhibiting flows between cells, it shall be removed quickly			
Sediment Accumulation	Sediment accumulation in basin bottom that exceeds the depth of sediment zone plus 6 inches in the sediment forebay. If sediment is blocking an inlet or outlet, it shall be removed.			
Erosion	Erosion of basin's side slopes and/or scouring of basin bottom.			
Oil Sheen on Water	Prevalent and visible oil sheen.			
Noxious Pests	Visual observations or receipt of complaints of numbers of pests that would not be naturally occurring and could pose a threat to human or aquatic health.			
Water Level	First cell empty, doesn't hold water.			
Aesthetics	Minor vegetation removal and thinning. Mowing berms and surroundings			
Noxious Weeds	Any evidence of noxious weeds.			

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) [†]	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Tree Growth	Tree growth does not allow maintenance access or interferes with maintenance activity (i.e., slope mowing, silt removal, vactoring, or equipment movements). If trees are not interfering, do not remove. Dead, diseased, or dying trees shall be removed.			
Settling of Berm	If settlement is apparent. Settling can be an indication of more severe problems with the berm or outlet works. A geotechnical engineer shall be consulted to determine the source of the settlement if the dike/berm is serving as a dam.			
Piping through Berm	Discernable water flow through basin berm. Ongoing erosion with potential for erosion to continue. A licensed geotechnical engineer shall be called in to inspect and evaluate condition and recommend repair of condition.			
Tree and Large Shrub Growth on Downstream Slope of Embankments	Tree and large shrub growth on downstream slopes of embankments may prevent inspection and provide habitat for burrowing rodents.			
Erosion on Spillway	Rock is missing and soil is exposed at top of spillway or outside slope.			
Gate/Fence Damage	Damage to gate/fence, including missing locks and hinges			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

8. Wet Retention Basin Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Trash & Debris	Any trash and debris which exceed 5 cubic feet per 1,000 sf of basin area (one standard garbage can) or if trash and debris is excessively clogging the outlet structure. If less than threshold all trash and debris will be removed as part of next scheduled maintenance.			
Sediment Accumulation	Sediment accumulation in basin bottom that exceeds the depth of the design sediment zone plus 6 inches, usually in the first cell.			
Erosion	Erosion of basin's side slopes and/or scouring of basin bottom.			
Oil Sheen on Water	Prevalent and visible oil sheen.			
Noxious Pests	Visual observations or receipt of complaints of numbers of pests that would not be naturally occurring and could pose a threat to human or aquatic health.			
Water Level	First cell empty, doesn't hold water.			
Algae Mats	Algae mats over more than 20% of the water surface.			
Aesthetics	Minor vegetation removal and thinning. Mowing berms and surroundings			
Noxious Weeds	Any evidence of noxious weeds.			
Tree Growth	Tree growth does not allow maintenance access or interferes with maintenance activity (i.e., slope mowing, silt removal, vactoring, or equipment movements). If trees are not interfering, do not remove. Dead, diseased, or dying trees shall be removed.			

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) [†]	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Settling of Berm	If settlement is apparent. Settling can be an indication of more severe problems with the berm or outlet works. A geotechnical engineer shall be consulted to determine the source of the settlement if the dike/berm is serving as a dam.			
Piping through Berm	Discernable water flow through basin berm. Ongoing erosion with potential for erosion to continue. A licensed geotechnical engineer shall be called in to inspect and evaluate condition and recommend repair of condition.			
Tree and Large Shrub Growth on Downstream Slope of Embankments	Tree and large shrub growth on downstream slopes of embankments may prevent inspection and provide habitat for burrowing rodents.			
Erosion on Spillway	Rock is missing and soil is exposed at top of spillway or outside slope.			
Gate/Fence Damage	Damage to gate/fence, including missing locks and hinges			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

9. Dry Extended Detention Basin Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1 or 2)†	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
General				
Appearance	Untidy, un-mown (if applicable)			
Vegetation	Access problems or hazards; dead or dying trees			
	Poisonous or nuisance vegetation or noxious weeds			
Insects	Insects such as wasps and hornets interfere with maintenance activities.			
Rodent Holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes			
Trash and Debris	Trash and debris > 5 cf/1,000 sf (one standard size garbage can).			
Pollutants	Any evidence of oil, gasoline, contaminants or other pollutants			
Inlet/Outlet Pipe	Inlet/Outlet pipe clogged with sediment and/or debris. Basin not draining.			
Erosion	Erosion of the basin's side slopes and/or scouring of the basin bottom that exceeds 2-inches, or where continued erosion is prevalent.			
Piping	Evidence of or visible water flow through basin berm.			
Settlement of Basin Dike/Berm	Any part of these components that has settled 4-inches or lower than the design elevation, or inspector determines dike/berm is unsound.			
Overflow Spillway	Rock is missing and/or soil is exposed at top of spillway or outside slope.			
Sediment Accumulation in Basin Bottom	Sediment accumulations in basin bottom that exceeds the depth of sediment zone plus 6-inches.			
Tree or shrub growth	Trees > 4 ft in height with potential blockage of inlet, outlet or spillway; or potential future bank stability problems			

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1 or 2)†	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Debris Barriers (e.g., Trash Racks)				
Trash and Debris	Trash or debris that is plugging more than 20% of the openings in the barrier.			
Damaged/ Missing Bars	Bars are bent out of shape more than 3 inches.			
	Bars are missing or entire barrier missing.			
	Bars are loose and rust is causing 50% deterioration to any part of barrier.			
Inlet/Outlet Pipe	Debris barrier missing or not attached to pipe.			
Fencing				
Missing or broken parts	Any defect in the fence that permits easy entry to a facility.			
Erosion	Erosion more than 4 inches high and 12-18 inches wide, creating an opening under the fence.			
Damaged Parts	Damage to gate/fence, posts out of plumb, or rails bent more than 6 inches.			
Deteriorating Paint or Protective Coating	Part or parts that have a rusting or scaling condition that has affected structural adequacy.			
Gates				
Damaged or missing member	Missing gate or locking devices, broken or missing hinges, out of plum more than 6 inches and more than 1 foot out of design alignment, or missing stretcher bar, stretcher bands, and ties.			

†Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

10. Proprietary Device Inspection and Maintenance Checklist

Date: _____ Work Order # _____

Type of Inspection: post-storm annual routine post-wet season pre-wet season

Facility: _____ Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Refer to the manufacturer's instructions for maintenance/inspection requirements, below are generic guidelines to supplement manufacturer's recommendations.				
Underground Vault				
Sediment Accumulation on Media	Sediment depth exceeds 0.25-inches.			
Sediment Accumulation in Vault	Sediment depth exceeds 6-inches in first chamber.			
Trash/Debris Accumulation	Trash and debris accumulated on compost filter bed.			
Sediment in Drain Pipes or Cleanouts	When drain pipes, clean-outs, become full with sediment and/or debris.			
Damaged Pipes	Any part of the pipes that are crushed or damaged due to corrosion and/or settlement.			
Access Cover Damaged/Not Working	Cover cannot be opened; one person cannot open the cover using normal lifting pressure, corrosion/deformation of cover.			
Vault Structure Includes Cracks in Wall, Bottom, Damage to Frame and/or Top Slab	Cracks wider than 1/2-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determine that the vault is not structurally sound.			
	Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks.			
Baffles	Baffles corroding, cracking warping, and/or showing signs of failure as determined by maintenance/inspection person.			

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) [†]	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Access Ladder Damaged	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structure wall, missing rungs, cracks, or misaligned.			
Below Ground Cartridge Type				
Filter Media	Drawdown of water through the media takes longer than 1 hour and/or overflow occurs frequently.			
Short Circuiting	Flows do not properly enter filter cartridges.			

[†]Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

Appendix C Ordinances

Austin, TX

CHAPTER 30-5. ENVIRONMENT.

SUBCHAPTER A. WATER QUALITY.

ARTICLE 6. WATER QUALITY CONTROLS.

Division 1. Requirements and Standards.

§ 30-5-211 WATER QUALITY CONTROL REQUIREMENT.

(A) In the Barton Springs Zone, water quality controls are required for all development.

(B) In a watershed other than a Barton Springs Zone watershed, water quality controls are required for development:

- (1) located in the water quality transition zone;
- (2) of a golf course, play field, or similar recreational use, if fertilizer, herbicide, or pesticide is applied; or
- (3) except as provided in Subsection (C), with impervious cover that exceeds 20 percent of net site area.

(C) In an urban watershed:

- (1) water quality controls are required in accordance with the Environmental Criteria Manual; and
- (2) new development must provide for removal of floating debris from stormwater runoff.

Source: City Code Section 25-8-211; Ord. 031211-11; Ord. 031211-42.

§ 30-5-212 PREVIOUS WAIVERS AND SPECIAL EXCEPTIONS.

Water quality controls in accordance with Section 30-5-213 (*Water Quality Control Standards*) are required for a commercial or multifamily development with more than 20 percent impervious cover that has been granted a waiver of previous water quality requirements or a special exception under this subchapter.

Source: City Code Section 25-8-212; Ord. 031211-11; Ord. 031211-42.

§ 30-5-213 WATER QUALITY CONTROL STANDARDS.

(A) A water quality control must be designed in accordance with the Environmental Criteria Manual.

(1) The control must provide at least the treatment level of a sedimentation/filtration system under the Environmental Criteria Manual.

(2) An impervious liner is required in an area where there is surface runoff to groundwater conductivity. If a liner is required and controls are located in series, liners are not required for the second or later in the series following sedimentation, extended detention, or sedimentation/filtration.

(B) A water quality control must capture, isolate, and treat the water draining to the control from the contributing area. The required capture volume is:

(1) the first one-half inch of runoff; and

(2) for each 10 percent increase in impervious cover over 20 percent of gross site area, an additional one-tenth of an inch of runoff.

(C) The location of a water quality control:

(1) must avoid recharge features to the greatest extent possible;

(2) must be shown on the slope map, preliminary plan, site plan, or subdivision construction plan, as applicable; and

(3) in a water supply rural watershed, may not be in the 40 percent buffer zone, unless the control is located to maximize overland flow and recharge in the undisturbed remainder of the 40 percent buffer zone.

(D) This subsection provides additional requirements for the Barton Springs Zone.

(1) Approval by the director is required for a proposed water quality control that is not described in the Environmental Criteria Manual. The applicant must substantiate the pollutant removal efficiency of the proposed control with published literature or a verifiable engineering study.

(2) Water quality controls must be placed in sequence if necessary to remove the required amount of pollutant. The sequence of controls must be:

(a) based on the Environmental Criteria Manual or generally accepted engineering principles; and

(b) designed to minimize maintenance requirements.

Source: City Code Section 25-8-213; Ord. 031211-11; Ord. 031211-42.

§ 30-5-214 OPTIONAL PAYMENT INSTEAD OF STRUCTURAL CONTROLS IN URBAN WATERSHEDS.

(A) The director shall identify and prioritize water quality control facilities for the urban watersheds in an Urban Watersheds Structural Control Plan. The Environmental Board shall review the plan in January

of each year.

(B) An Urban Watersheds Structural Control Fund is established for use in the design and construction of water quality control facilities in the urban watersheds.

(C) Instead of providing the water quality controls required under Section 30-5-211 (*Water Quality Control Requirement*), in an urban watershed a developer may request approval to deposit with the city a nonrefundable cash payment, based on a formula established by the council. The director shall review the request and accept or deny the request not later than the 15th working day after its receipt.

(D) The director shall deposit a payment made under this section in the Urban Watersheds Structural Control Fund.

Source: City Code Section 25-8-214; Ord. 031211-11; Ord. 031211-42.

Division 2. Maintenance and Inspection.

§ 30-5-231 WATER QUALITY CONTROL MAINTENANCE AND INSPECTION.

In this section:

(1) **COMMERCIAL DEVELOPMENT** means all development other than Residential Development.

(2) **COMMERCIAL POND** means a required water quality control or appurtenance that receives stormwater runoff from a Commercial Development.

(3) **ECM STANDARDS** means the provisions in the Environmental Criteria Manual regarding maintenance of a required water quality control or appurtenance.

(4) **RESIDENTIAL DEVELOPMENT** means development of two dwelling units or less per lot.

(5) **RESIDENTIAL POND** means a required water quality control or appurtenance that receives stormwater runoff from a Residential Development.

(B) The record owner of a commercial development shall maintain the commercial pond serving the commercial development in accordance with the ECM standards, whether or not the commercial pond is located on the same property as the commercial development. The record owner shall provide the City proof of the right to access and maintain the commercial pond if it is not located on the same property as the commercial development.

(C) If more than one commercial development is served by a single commercial pond, the record owners of the commercial pond and all commercial developments served by the commercial pond shall be jointly and severally responsible for maintenance of the commercial pond in accordance with the ECM standards.

(D) The director may authorize an alternative arrangement for maintenance of a residential or

commercial basin in accordance with the DCM standards. If an alternative arrangement is approved by the director, the city attorney shall determine whether an agreement is necessary; the agreement must be approved by the city attorney and filed of record.

(E) The City shall inspect each commercial pond at least once every three years to ensure that the commercial pond is being maintained in accordance with the ECM standards. If the commercial pond fails inspection requiring an additional inspection, the director may charge a re-inspection fee.

(F) Until the City accepts a residential pond for maintenance, the record owner(s) of the residential pond and the residential development served shall maintain the residential pond in accordance with the ECM standards.

(G) The City shall be responsible for maintenance of a residential pond only after the residential pond has been accepted for maintenance by the City. The City will accept the residential pond upon determining that it meets the requirements of the Environmental Criteria Manual and, if applicable, Section 25-8-234 (*Fiscal Security In The Barton Springs Zone*).

Source: City Code Section 25-8-231; Ord. 031211-11; Ord. 031211-42; Ord. 20090820-060.

§ 30-5-232 DEDICATED FUND.

(A) The city's director of finance shall establish a dedicated fund to:

- (1) monitor water quality controls; and
- (2) maintain water quality controls for single-family and duplex residential development.

(B) An applicant shall pay the required fee into the fund:

- (1) for development that does not require a site plan, when the applicant posts fiscal security for the subdivision or requests that the single office record the subdivision plat, whichever occurs first; or
- (2) for development that requires a site plan, when the site plan is approved.

(C) The director shall report annually to the council regarding the status of the fund and the monitoring and maintenance program described in this section.

Source: City Code Section 25-8-232; Ord. 031211-11; Ord. 031211-42.

§ 30-5-233 BARTON SPRINGS ZONE OPERATING PERMIT.

(A) In the Barton Springs Zone, the owner or operator of a commercial or multifamily development is required to obtain an annual operating permit for the required water quality controls.

(B) To obtain an annual operating permit, an applicant must:

- (1) provide the director with:

- (a) a maintenance plan; and
- (b) the information necessary to verify that the water quality controls are in proper operating condition; and
- (c) pay the required, nonrefundable fee.

(C) The director may verify that a water quality control is in proper operating condition by either inspecting the water quality control or accepting a report from a registered engineer.

(D) The director shall issue an operating permit after determining that:

- (1) the applicant has complied with the requirements of Subsection (B); and
- (2) the water quality controls are in proper operating condition.

(E) The director shall transfer an operating permit to a new owner or operator if, not later than the 30th day after a change in ownership or operation, the new owner or operator:

- (1) signs the operating permit;
- (2) accepts responsibility for the water quality controls; and
- (3) documents the transfer on a form provided by the director.

Source: City Code Section 25-8-233; Ord. 031211-11; Ord. 031211-42.

§ 30-5-234 FISCAL SECURITY IN THE BARTON SPRINGS ZONE.

(A) For development in the Barton Springs Zone, an applicant shall provide the city with fiscal security to ensure that water quality controls are maintained properly. The director shall calculate the amount of fiscal security in accordance with the formula in the Environmental Criteria Manual.

(B) The director may not return the fiscal security to the applicant until:

- (1) the expiration of one year after the completion of the development; and
- (2) the director receives verification that the controls are constructed in accordance with the approved design by:
 - (a) the applicant's delivery of a certified engineering concurrence letter; and
 - (b) a report from a city inspector.

Source: City Code Section 25-8-234; Ord. 031211-11; Ord. 031211-42.

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Houston, TX

DIVISION 2. - POST-CONSTRUCTION CONTROLS ON NEW DEVELOPMENT AND SIGNIFICANT REDEVELOPMENT ^[202]

⁽²⁰²⁾ **Editor's note**— Section 7 of Ord. No. 01-800 states: (a) That except as provided in subsection (b) of this section, Division 2 of Article XII of Chapter 47 of the City of Houston Code of Ordinances, as set forth in §§ 47-601—47-742, shall not apply to:(1) Any new development or significant redevelopment for which a completed and unexpired application for a preliminary or final subdivision plat has been filed prior to the effective date of this Ordinance; (2) The construction of streets, public utilities and other associated facilities included on unexpired construction plans that are submitted with a completed and unexpired application for a final subdivision plat that has been filed prior to the effective date of this ordinance; and (3) Any new development or significant redevelopment for which a completed and unexpired application for a development plat or a building permit has been filed prior to the effective date of this Ordinance.

Subdivision A. - In General
Subdivision B. - Storm Water Quality Permit Process
Subdivision C. - Storm Water Quality Permit Requirements

⁽²⁰²⁾ (b) That the new development or significant redevelopment of any reserve created pursuant to a plat approved on the basis of an application described in item (1) of subsection (a) of this section shall comply with Division 2 of Article XII of Chapter 47 of the Code of Ordinances, §§ 47-601—47-742.

⁽²⁰²⁾ (c) That the terms used in this Section shall have the meanings ascribed to them in Article XII of Chapter 47 of the Code of Ordinances, as set forth in §§ 47-601—47-742.

Subdivision A. - In General

[Sec. 47-631. - Applicability.](#)
[Sec. 47-632. - General requirements.](#)
[Sec. 47-633. - Industrial activity certification.](#)
[Sec. 47-634. - Denial of plat recordation.](#)
[Sec. 47-635. - Denial of construction permit.](#)
[Sec. 47-636. - Denial of utility connections.](#)
[Sec. 47-637. - Denial of certificate of occupancy.](#)
[Sec. 47-638. - Fees.](#)
[Secs. 47-639—47-650. - Reserved.](#)

Sec. 47-631. - Applicability.

(a) This division shall apply to new development and significant redevelopment within the city (i) of any kind by a private individual or entity, except for the construction of major thoroughfares and major collector streets designated on the City's Major Thoroughfare and Freeway Plan and any public utilities in the rights-of-way for such thoroughfares and streets, or (ii) of a structure, parking or storage area, or park or recreational facility by a governmental entity.

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(b) If the use of a parcel that was previously excluded from the definition of new development because it was development on an existing undeveloped and undivided parcel of five acres or more of one dwelling unit and one or more accessory structures changes to a commercial activity that is not a home occupation, or the property is further subdivided, the owner of the parcel shall at that time comply with all requirements of this article.

(c) This division shall not apply to demolition authorized by action of the neighborhood protection official pursuant to chapter 10 of this Code.

(Ord. No. 01-800, § 3, 8-29-01; Ord. No. 02-528, § 14n., 6-19-02)

Sec. 47-632. - General requirements.

(a) Subject to the limitation in subsection (c) of this section, all new development and significant redevelopment subject to this article shall either obtain and continuously maintain a storm water quality permit or file an industrial activity certification. If a parcel subject to the requirements of this section is located partially in the city and partially in the unincorporated area of Harris County and storm water from any portion of the parcel drains into the MS4, a SWQ permit or IAC shall be required for the parcel. If a parcel subject to the requirements of this subsection is located partially in the city and partially in the unincorporated area of a county other than Harris County, a SWQ permit or IAC shall be required for the parcel.

(b) The SWQ permit is in addition to any other construction permit required for the new development or significant redevelopment.

(c) Subject to the limitations in this subsection, the obligation to have and comply with a SWQ permit shall continue in perpetuity and shall run with all the land covered by the original SWQ permit. The owner of the land shall have the obligation to have and comply with a SWQ permit unless that obligation is transferred to another person pursuant to section 47-673 of this Code. If pursuant to sections 47-673(a)(1) or 47-673(b) of this Code the obligation to comply is transferred to a homeowners' association or a person other than the city, the homeowners' association or the other person shall have the obligation to maintain and comply with a SWQ permit. If pursuant to section 47-673(a)(2) of this Code, the obligation to comply is transferred to the city, the obligation to obtain and continuously maintain a SWQ permit for the land covered by the SWQ permit shall cease.

(d) For new development or significant redevelopment that includes, in whole or in part, the platting of a single-family residential subdivision, a SWQ permit for the single-family residential portion of the subdivision shall be obtained before the release of the plat for recordation. For all other new development or any significant redevelopment, a SWQ permit shall be obtained before the issuance of any construction permit for the new development or significant redevelopment.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-633. - Industrial activity certification.

If the new development or significant redevelopment occurs at a facility that either has or will have permit coverage for storm water discharges from industrial activity issued by the state before the industrial activity will commence, the operator shall either submit an industrial activity certification in a form approved by the city engineer or obtain a SWQ permit. The industrial activity certification shall include any of the following:

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- (1) A copy of the application for an individual permit from the state for storm water discharges from industrial activity at the facility;
- (2) A copy of the permit issued by the state for storm water discharges from industrial activity at the facility;
- (3) A copy of the NOI for coverage under a general permit for storm water discharges associated with industrial activity issued by the state;
- (4) A statement of commitment to file an application for an individual permit from the state for storm water discharges from industrial activity at the facility; or
- (5) A statement of commitment to file a NOI for coverage under a general permit for storm water discharges associated with industrial activity issued by the state.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-634. - Denial of plat recordation.

The planning and development department shall not release for recordation a subdivision plat for new development or significant redevelopment consisting in whole or in part of single-family residential lots that does not have a SWQ permit for the residential lots.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-635. - Denial of construction permit.

(a) Neither the city engineer nor the building official shall issue any construction permit required for new development or significant redevelopment that has not filed an IAC or that has not obtained or is not in compliance with a SWQ permit.

(b) If the SWQMP on which the SWQ permit is based includes one or more structural controls, neither the building official nor the city engineer shall issue any construction permit for streets, public utilities, demolition or storm water controls for all or part of the new development or significant redevelopment unless the requirements of section 47-652 of this Code have been met.

(c) If the SWQMP on which the SWQ permit is based includes one or more structural controls, neither the building official nor the city engineer shall issue any construction permit, except permits for streets, public utilities, demolition or storm water controls, for all or part of the new development or significant redevelopment unless either:

(i) The city engineer has confirmed the proper installation of all structural controls included in the SWQMP for all or that portion of the new development or significant redevelopment and the SWQ permittee has satisfied the requirements of section 47-672(a); or

(ii) The city has assumed maintenance of all structural controls included in the SWQMP for all or that portion of the new development or significant redevelopment pursuant to section 47-674

(c) If the SWQMP on which the SWQ permit is based does not include one or more structural controls, neither the building official nor the city engineer shall issue any construction permit for all or a part of the new development or significant redevelopment unless the SWQ permittee has satisfied the requirements of section 47-672(b).

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(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-636. - Denial of utility connections.

The utility official shall not permit any new development or significant redevelopment to receive any service from the city water distribution or wastewater collection systems unless, at the time of the application for service, the new development or significant redevelopment has and is in compliance with a SWQ permit or an industrial activity certification.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-637. - Denial of certificate of occupancy.

(a) Except as provided in subsection (b) of this section, the building official shall not issue a certificate of occupancy for any new development or significant redevelopment unless the new development or significant redevelopment has and is in compliance with a SWQ permit or an industrial activity certification

(b) Subsection (a) shall not apply if the city has assumed maintenance of all controls specified in the SWQMP on which the SWQ permit is based pursuant to section 47-674 of this Code.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-638. - Fees.

The fees for this article are set forth in the city fee schedule. Payment of any applicable fees when due is a condition of the processing of any application, renewal, amendment or structural control maintenance agreement under this article.

(Ord. No. 01-800, § 3, 8-29-01; Ord. No. 06-892, § 14, 8-23-06; Ord. No. 2011-1168, § 13, 12-14-2011)

Secs. 47-639—47-650. - Reserved.

Subdivision B. - Storm Water Quality Permit Process

[Sec. 47-651. - Storm water quality permit application generally.](#)

[Sec. 47-652. - Bond.](#)

[Sec. 47-653. - Issuance of SWQ permit.](#)

[Sec. 47-654. - Amendment of SWQ permit.](#)

[Sec. 47-655. - Revocation of SWQ permit.](#)

[Sec. 47-656. - Duration.](#)

[Sec. 47-657. - Renewal.](#)

[Secs. 47-658—47-670. - Reserved.](#)

Sec. 47-651. - Storm water quality permit application generally.

An applicant for a SWQ permit shall submit a storm water quality permit application on the form specified by the city engineer. The application shall include a storm water quality management plan that:

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- (1) Complies with the design manual;
- (2) Includes a proposed inspection checklist, maintenance plan, and associated construction drawings; and
- (3) Is sealed by a professional engineer licensed as such in Texas.

Each application for a SWQ permit shall be accompanied by the applicable application fee.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-652. - Bond.

(a) Except as provided in subsection (d), if the SWQMP includes structural controls, the applicant shall provide a performance bond that satisfies the following requirements:

- (1) The bond shall name the owner or operator of the parcel subject to the SWQ permit as principal and a corporate bonding company licensed to conduct business in the state as surety to secure the city that the proposed structural controls to be covered by the bond will be constructed and installed in accordance with the SWQ permit, the SWQMP, and any plans and specifications contained therein, and securing the city against loss, damage, claim, or liability in connection therewith.
- (2) The bond shall be in a sum that includes at a minimum the total estimated costs of the controls to be constructed.
- (3) The bond shall be in favor of and for the use and benefit of the city.
- (4) The bond shall describe, by reference to the number of the application together with such other brief descriptive matter as is necessary, the work proposed to be done or to be covered by the SWQ permit in connection with which the bond is given.
- (5) The bond required by this section shall be conditioned that the work therein referred to will be performed in strict and full accordance with the terms and provisions of the SWQ permit, the SWQMP, and the plans and specifications therein; and that if any of the work is not performed in accordance therewith, or if any materials not in accordance therewith are used in the process of such work, such failure and default shall be promptly remedied and any defective material or work removed and replaced with material and by workmanship in accordance with the terms of the SWQ permit, the SWQMP, and plans and specifications therein without cost or expense to the city up to the sum of the bond. The bond must guarantee materials and workmanship for a period of one year after the city's initial inspection that confirms proper installation of the controls.
- (6) The bond shall provide that the surety company will notify the city in writing 30 days prior to a cancellation, nonrenewal, or material change in the policy. In the case of nonrenewal or cancellation, the SWQ permittee shall then have 21 days after the surety company's notice to the city to replace the coverage or the SWQ permittee's SWQ permit shall be revoked after notice and the opportunity for a hearing without further action on the part of the city.
- (7) The bond shall be in a form approved by the city attorney and must be accompanied by a power of attorney or other convincing evidence of the issuing agent's authority to act for the surety company and must meet the requirements of Article 7.19-1(b) of the Insurance Code.

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(8) The bond shall be furnished to the city prior to the issuance of a construction permit for any construction on the parcel.

(b) The applicant must present to the city its estimate of the costs to construct the structural controls included in the SWQMP, and the city will assess the reasonableness of the estimate. If the city determines that the estimate is insufficient and the applicant does not provide a substitute bond in an amount deemed sufficient by the city, the city shall deny the SWQ permit that is supported by the bond.

(c) The bond shall be released one year after the date of the city's inspection that confirms that the structural controls covered by the bond have been properly installed and are performing as intended.

(d) A bond shall not be required if all structural controls will be completed and the certifications required by section 47-672(a) will be filed before any additional construction, including the construction of streets and utilities, commences.

(e) If the project is on public property, the owner or operator shall also provide a payment bond to the city to secure the payment of mechanics, materialmen and suppliers liens.

(Ord. No. 01-800, § 3, 8-29-01; Ord. No. 06-892, § 15, 8-23-06)

Sec. 47-653. - Issuance of SWQ permit.

(a) The city engineer shall review the SWQ permit application and the SWQMP and either approve or deny the application based on compliance with the applicable provisions of this article and the design manual. The city engineer shall also deny the application if any statement made in the application or any documents submitted therewith were known to be false or should have been known to be false by the applicant.

(b) The SWQ permit shall be issued to the owner of the land covered by the SWQ permit and shall run with the land and be binding on all subsequent owners unless responsibility for compliance has been transferred pursuant to section 47-673 of this Code.

(c) The applicant may seek a hearing for reconsideration of the denial of a SWQ permit pursuant to section 47-608 of this article by filing a written request with the city engineer not later than the tenth day after the applicant has been notified that the application has been denied.

(d) The granting of a SWQ permit does not imply that federal or state storm water management requirements or criteria have been met.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-654. - Amendment of SWQ permit.

(a) An amendment to the SWQ permit is required in the following events:

(1) The person responsible for compliance with the SWQ permit changes either as a result of:

(A) The transfer of ownership of the parcel to a different person; or

(B) The transfer of the obligation to comply with this Code to a third-party permittee pursuant to section 47-673 of this Code.

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(2) Any substantial deviation is made to a structural control or any change is made to a non-structural control in the SWQMP on which the SWQ permit is based; or

(3) The subsequent new development or significant redevelopment of any parcel covered by that SWQ permit (unless the subsequent new development or significant redevelopment has already been anticipated and provided for in the SWQMP on which the SWQ permit is based).

(b) Applications to amend a SWQ permit to satisfy subsection (a)(1) of this section shall be submitted within ten days after any such transfer to a subsequent owner or to a third-party permittee. Amendments to a SWQ permit to satisfy subsections (a)(2) and (a)(3) of this section must be obtained before commencement of the activity that triggers the need for the amendment.

(c) An application to amend a SWQ permit to transfer the SWQ permit to a subsequent owner or a third-party permittee shall include an attestation by the subsequent owner or third-party permittee that he has read the SWQMP and agrees to adhere to the operation and maintenance requirements specified therein.

(d) To amend a SWQ permit, the SWQ permittee must submit a revised SWQMP, including any revisions to the inspection checklist, maintenance plan and associated construction drawings, together with the appropriate form and amendment fee. The city engineer shall review the amendment application and either approve or deny the amendment application based on compliance with the applicable provisions of this article and the design manual.

(e) If the amendment includes the transfer of responsibility for compliance with this division to a third-party permittee pursuant to section 47-673(b) of this Code, the legal agreement documenting that transfer shall be referred to the city attorney for a determination of whether the legal agreement is adequate to assure compliance. If the city attorney determines that the legal agreement is not adequate and the applicant does not provide a substitute legal agreement deemed adequate by the city attorney, the amendment application shall be denied.

(f) The applicant may seek a hearing to reconsider the denial of an amendment to a SWQ permit pursuant to section 47-608 of this Code.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-655. - Revocation of SWQ permit.

(a) The city engineer shall revoke a SWQ permit after notice and opportunity for a hearing pursuant to section 47-608 of this article if he finds that:

(1) The applicant knew or should have known that a statement made in the application for the SWQ permit was false;

(2) The SWQ permittee has violated any provision of its SWQ permit or of this division including, but not limited to, failure to amend a SWQ permit as required by section 47-654 of this Code;

(3) The SWQ permittee or anyone acting on his behalf commits or threatens to commit an act of violence against a city official either on or off the job for the purpose of intimidating the official so that he will not perform his duties under this division; or

(4) The SWQ permit has been issued in error.

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(b) The city engineer shall send a written notification by certified mail, return receipt requested, to the SWQ permittee informing him of the grounds for revoking his SWQ permit. The SWQ permittee may request a hearing pursuant to section 47-608 by filing a written request with the city engineer not later than the tenth day after notification by the city of the grounds for revocation.

(Ord. No. 01-800, § 3, 8-29-01; Ord. No. 06-892, § 16, 8-23-06)

Sec. 47-656. - Duration.

An initial SWQ permit shall be valid for one year from date of issuance, but may be renewed. All subsequent renewals of a SWQ permit shall be valid for one year.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-657. - Renewal.

To renew a SWQ permit, the SWQ permittee shall submit a renewal application on a form prescribed by the city engineer and the applicable renewal fee not more than 30 days but not less than five days prior to expiration of the SWQ permit. As part of the renewal application, the SWQ permittee shall certify that all controls have been maintained as specified in the SWQMP. If structural controls are used, a state licensed professional engineer shall also certify that all structural controls still generally conform to the plans and technical specifications in the SWQMP. The city engineer shall deny a renewal application if it is found that the SWQ permittee failed to seek an amendment to its SWQ permit if required to do so pursuant to section 47-654 of this Code.

(Ord. No. 01-800, § 3, 8-29-01)

Secs. 47-658—47-670. - Reserved.

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[Sec. 47-672. - Certifications and attestations.](#)

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Sec. 47-671. - Incorporation by reference.

The SWQMP, including the proposed inspection checklist, maintenance plan and associated construction drawings, shall be incorporated into the SWQ permit by reference. Failure to comply with the SWQMP shall be a violation of this article.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-672. - Certifications and attestations.

(a) If the SWQMP on which the SWQ permit is based includes one or more structural controls, the SWQ permittee shall submit a certificate sealed by a professional engineer licensed as such in Texas within 14 days after the structural controls specified in the SWQMP for all or that part of the new development or significant redevelopment have been installed. The certificate shall certify that all structural controls are in general accordance with the plans and technical specifications in the SWQMP. At the same time this certificate is filed, the SWQ permittee shall also submit an attestation that he has read the SWQMP and agrees to adhere to the operation and maintenance requirements specified therein.

(b) If the SWQMP on which the SWQ permit is based does not include one or more structural controls, the SWQ permittee shall, before the issuance of a construction permit for any structure on land included in the SWQMP, submit an attestation that he has read the SWQMP and agrees to adhere to the operation and maintenance requirements specified therein.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-673. - Transfer of permit; third-party permittees.

(a) The provisions of this subsection (a) shall apply to subdivisions that include lots for single-family residential use. Prior to the sale of the first lot in the subdivision or any section thereof, the owner of land that is being subdivided, in whole or in part, into single-family residential lots shall either:

(1) Transfer the obligation to comply with all requirements of this division to a homeowners' association established for all or that part of the subdivision. The homeowners' association must have fee simple title to all structural controls and, at a minimum, an easement in favor of the homeowners' association allowing access to maintain structural controls or to implement non-structural controls. Further, the owner must require that any homeowners' association for the subdivision have the authority to impose fees or otherwise generate monies to fund operation and maintenance measures and bond requirements. After a homeowners' association complying with the provisions of this subsection has been established, the owner may seek to amend the SWQ permit pursuant to section 47-654 of this Code to transfer the SWQ permit to the homeowners' association. Until the city has approved the transfer to the homeowners' association, the owner shall remain responsible for compliance with the requirements of this division; or

(2) Transfer the obligation to comply with all requirements of this division to the city pursuant to a structural control maintenance agreement.

(b) The provisions of this subsection (b) shall apply to all new development or significant redevelopment that is not governed by subsection (a) above. The SWQ permit may be transferred to a person other than the owner of the land subject to the SWQ permit if the person and the owner enter into a binding legal agreement that meets the requirements of this subsection. The person must agree to comply with the requirements of this division and with the terms and conditions of the SWQ permit, including adherence to the operation and maintenance requirements specified therein. The third-party agreement shall grant fee simple title to all structural controls to the person, provide an easement if necessary to allow access by person across the owner's property to maintain structural controls or to implement non-structural controls, and if necessary, to allow storm water from the owner's property to drain across any adjacent property to a designated structural control. The legal agreement shall also provide that in the event of its termination for any reason, including by either choice or default, the

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obligation to comply with the provisions of this division shall revert to the owner of the land.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-674. - Assumption of maintenance requirements.

(a) The city shall only enter into a structural control maintenance agreement to assume responsibility for long-term maintenance of structural controls pursuant to section 47-673(a)(2) if the city engineer determines that:

- (1) The SWQMP on which the SWQ permit is based only includes structural controls;
- (2) The structural controls serve either:
 - (a) Only the single-family residential lots in a recorded subdivision; or
 - (b) The single-family residential lots and reserves in a recorded subdivision if the single-family residential lots constitute more than 80 percent of area served by the controls and the aggregate of all reserves served by the controls equals less than five acres;
- (3) The structural controls are suitable for public maintenance; and
- (4) The structural controls have been properly installed.

(b) The city engineer shall develop a list of structural controls suitable for public maintenance and the design criteria for the controls on the list, and shall publish them in the design manual. A structural control shall be suitable for public maintenance if maintenance of it will involve activities the same or similar to the activities performed by the department of public works and engineering's maintenance and right-of-way division.

(c) The city shall assume the long-term maintenance requirements of all structural controls specified in the SWQMP only in exchange for a payment in an amount equivalent to the estimated cost of maintaining the structure for ten years as determined by the city engineer.

(d) The structural control maintenance agreement shall grant the city all easements necessary to allow access for maintenance. The city's assumption of maintenance of the structural controls does not affect ownership of the underlying fee.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-675. - Accounting for structural control maintenance agreements.

(a) All payments collected pursuant to structural control maintenance agreements shall be deposited in a dedicated fund to which interest is allocated. All such amounts, together with all interest earned thereon, shall be used solely for the purposes set forth in subsection (b).

(b) The fees collected pursuant to structural control maintenance agreements may be used to finance or to recoup the costs of the operation, maintenance, equipment, labor or capital of structural controls assumed pursuant to a structural control maintenance agreement and for meeting any other ongoing regulatory requirements imposed on such structures, such as annual certifications of compliance or to finance or recoup the costs of any other subsequent measures undertaken by the city to address storm water quality to achieve the same purposes as the structural controls. Maintenance shall include, but

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not be limited to, mowing, dredging and repair.

(c) Consistent with the city charter and state budget laws, disbursement of funds shall be authorized by the department of public works and engineering at such times as are reasonably necessary to carry out the purposes and intent of this article.

(Ord. No. 01-800, § 3, 8-29-01)

Sec. 47-676. - Recordation.

(a) The SWQ permit requirements for each parcel shall be recorded in the real property records the county in which the parcel is located. The recordation shall note that none of the structural or non-structural controls on or for the parcel may be changed from the plans and technical specifications in the SWQ permit for the parcel, except as may otherwise be provided in this article.

(b) For new development that includes the platting of a reserve tract, a notation shall be placed on the subdivision plat that a SWQ permit must be obtained before the issuance of any construction permit for a structure on all or a part of the reserve tract.

(c) Third-party permittees: For subdivisions of lots for single-family residences, the homeowners' association agreement or structural control maintenance agreement shall be recorded for all parcels in the subdivision at the time of the transfer of the SWQ permit to the homeowners' association. For other new development or significant redevelopment for which there is a third-party permittee, the third-party agreement shall be recorded for all parcels subject to the rights and obligations specified in the agreement at the time of the transfer of the SWQ permit to the third-party permittee.

(d) The SWQ permit applicant or, if the SWQ permit has already been issued, the SWQ permittee, shall pay all recording fees required by the county clerk's office.

(Ord. No. 01-800, § 3, 8-29-01; Ord. No. 06-892, § 17, 8-23-06)

Secs. 47-677—47-690. - Reserved.

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Storm Water Quality Ordinance Brazoria County, Texas

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SECTION I. INTERPRETATION

- A. This Ordinance sets forth the administrative procedures, standards, and enforcement remedies which shall be used by Brazoria County, Texas (“County”) in meeting the requirements of the Texas Pollutant Discharge Elimination System (TPDES) Phase II Municipal Separate Storm Sewer System (MS4) General Permit as promulgated by the *TPDES Permitting Authority*.
- B. The provisions of this Ordinance shall be regarded as the requirements for the protection of the public health, safety, general welfare, and environment.
- C. This Ordinance is not intended to interfere or conflict with, abrogate, or annul any other regulation, ordinance, statute, or provision of law.
- D. Whenever a provision of this Ordinance and a provision of any other law, ordinance, resolution, rule, or regulation of any kind, including any other provision of this Ordinance, contains any restrictions covering the same subject matter, the more restrictive shall govern.

SECTION II. INTENT AND OBJECTIVES

A. Intent

The intent of this Ordinance is to comply with regulations set forth by the Texas Pollution Discharge Elimination System (TPDES) Phase II MS4 General Permit No. TXR040000.

B. Objectives

The objectives of this Ordinance are protecting the quality of water in the MS4's drainage ways and subsequent receiving waters in accordance with state and local regulations.

SECTION III. ADMINISTRATION

Except as otherwise provided herein, the County Judge hereby delegates to the County Engineer the duties imposed upon him and the powers granted to him to administer, implement, and enforce the provisions of this Ordinance.

SECTION IV. SEVERABILITY

If the provisions of any article, section, subsection, paragraph, subdivision, or clause of this Ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision, or clause of this Ordinance.

SECTION V. ABBREVIATIONS

The following abbreviations, when used in this Ordinance, shall mean the following:

BMP	-	Best Management Practice
MS4	-	Municipal Separate Storm Sewer System
NOV	-	Notice of Violation
SWO	-	Stop Work Order
SWP3	-	Storm Water Pollution Prevention Plan
TCEQ	-	Texas Commission of Environmental Quality
TPDES	-	Texas Pollution Discharge Elimination System

SECTION VI. DEFINITIONS

For the purposes of this Ordinance, the following shall mean:

Affidavit – A sworn statement in writing, submitted by a person, or persons, to the County Engineer, that is to be used as a legal document committing the said person to a long-term maintenance agreement with the County for maintenance of post-construction control measures.

Applicant – Any person that submits an application for a Storm Water Permit and is (1) the owner of the property upon which construction is proposed or is taking place; or (2) the lessee if the lessee undertakes development of the property under the terms of the lease.

Best management practices (BMPs) – Schedules of activities; prohibitions of practices; maintenance procedures; material storage shelters or covers; drainage management; runoff control devices or structures; retention or detention structures; trapping, separating, or settling devices; spill prevention or control devices and tools; waste treatment plants and devices; managed waste disposal devices and procedures; and other management practices as approved by the County to prevent or reduce the pollution of waters of the U.S.

County Engineer – Person appointed to the position of County Engineer, or his or her duly appointed representative.

Closure activities – Activities, or the process thereof, that result in the final stabilization of a construction site and leave the site in good repair.

Commencement of construction – The first disturbance of soils associated with or caused by move-in of equipment, installation of access roads or trails, storage of materials or equipment, clearing, grading, demolition, building, excavation or similar activities at a construction site.

Compliance Order – An order issued by the County Engineer requiring a discharger to comply with this Ordinance by means specified in the order.

Consent Order – An order issued by the County Engineer to which a discharger agrees to bring the discharge into compliance with this Ordinance.

Construction activity – Activities involving clearing, grading, demolition, excavation, filling, or building of above- and below-ground structures and buildings, support and auxiliary facilities, transportation facilities, container and containment structures, above- and below-ground utilities and associated auxiliary facilities, pipelines and conveyances, and similar activities undertaken for public purposes or needs; for preparation of land, structures, or facilities for commercial purposes, use, or sale; or for preparation of land, structures, or facilities for industrial purposes, use, or sale.

Discharge – Any addition or introduction of any pollutant, storm water, or any other substance whatsoever into the municipal separate storm sewer system (MS4) or into waters of the U.S.

Discharger – Any person who causes, allows, permits, or is otherwise responsible for a discharge, including, without limitation, any operator of a construction site.

Emergency Cease and Desist Order – An order issued by the County Engineer requiring immediate cessation of a discharge because of imminent endangerment to the public or the environment.

Final stabilization – The condition, or the activities leading thereto, of a construction site wherein all soil disturbing activities at the site have been completed, and a uniform perennial vegetative cover, or equivalent permanent erosion prevention measures, has been established

over at least 70% of all areas not paved or covered by permanent structures or impervious surfaces.

Guidance Document – The guidance document is a document produced by the County that serves as the detailed technical specifications, procedures and other materials related to or required by the Storm Water Permit and Storm Water Quality Plan.

Illicit connection – Any connection to a storm water conveyance without permit or exemption from prohibition of such connection.

Illicit discharge – A discharge of liquid or solid wastes, or combination thereof, which is discharged to a storm water conveyance without permit or exemption from prohibition of such discharge.

Maintenance – For the purpose of this ordinance, maintenance activities will consist of all activities which do not disturb the ground or increase the existing footprint. This includes resurfacing of roads and drainage ditch maintenance; such as reestablishing the original grade of a ditch.

Maximum Extent Practicable - A standard for water quality that applies to all MS4 operators regulated under the NPDES program. Since no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop and implement their programs to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants.

MS4 – The municipal separate storm sewer system, incorporating the entire system of storm water conveyances, but not sanitary or industrial wastewater sewers, or a single conveyance in such entire system, natural or man-made, lying within the boundaries of the County.

MS4 Permit – The TPDES permit issued to the County and other co-permittees for the discharge of storm waters from the MS4.

Municipal Separate Storm Sewer System (MS4) – Storm water conveyances lying within the corporate limits of the County, including but not limited to, storm water sewers, inlets, catch basins, traps, gutters, drains, ditches, culverts, canals, ponds, and other storm water conveyances, both natural and man-made, designed or used for collecting or conveying storm water, and which are not used for collecting or conveying sewage.

Notice of Violation (NOV) – A legal notice issued by the County Engineer indicating a discharge is in violation of this Ordinance and that the violator must eliminate such discharge.

Open space design – A low impact site design technique that concentrates dwellings in a compact area in one portion of the development in exchange for open space and natural areas elsewhere on the site. Open space designs are used to reduce impervious surfaces, storm water pollutants, and the loss of natural areas on a site.

Operator of a construction site – The person or persons associated with a large or small construction activity that is an operator as defined below:

(a) the person or persons that have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

(b) the person or persons that have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a storm water pollution prevention plan (SWP3) for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

Outfall – The outlet of a body of water, in particularly, the point where a storm conveyance reaches its receiving water.

Owner – The person who owns a facility, property on which a facility occurs, part of a facility, or part of the property on which a facility occurs; in the case of a mortgaged facility or property, the person who has a mortgage on the property and who will obtain, upon proper payment to a financial institution, ownership of the property; in the case of a facility or property for which a person has an option to purchase and such person acts, in effect, as an owner. Also, the person who owns a site or facility and who has ultimate financial responsibility for activities conducted at the site or facility.

Performance Bond – Bonds issued by commercial institution on behalf of contractors, such as construction companies, to protect project owners from the consequences the contractors' failure to complete contracts in accord with plans and specifications. Performance bonds can be particularly helpful in the case of especially environmentally risky or complex projects.

Person – Any individual; group of people by virtue of contract or mutual consent acting as a single entity; group of people assigned joint responsibility under requirements of this Ordinance; partnership; co-partnership; firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity; or the legal representatives, agents, or assigns of any person as defined in this paragraph. This definition includes all federal, state, and local governmental entities.

Petition for Reconsideration – Written document submitted by a person to the Public Works Director requesting reconsideration of a previously issued SWO; Compliance Order; Remediation, Abatement, and Restoration Order; or Emergency Cease and Desist Order.

Pollutant – Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, sediment, and industrial, municipal, and agricultural waste discharged into water. The term "pollutant" does not include tail water or runoff from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pasture land, and farm land.

Pollution – The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the U.S. that renders the water harmful, detrimental, or injurious

to humans, animal life, vegetation, property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

Receiving waters – Any water of the State that accepts storm water runoff as overland sheet flow, channelized flow from a man-made or natural drainage channel, or similar structure, and is considered to be the ultimate destination of the storm water.

Remediation, Abatement, and Restoration Order – A legally issued order by the County Engineer to correct or repair damage; stop, or otherwise control pollutant discharge; and/or to rehabilitate and return to original quality some condition in the environment.

Runoff coefficient – A measurement of the amount of the precipitation that falls on a specific surface actually ends up as storm water runoff.

Scour velocity – The velocity, measured in feet per second, at which water has the ability to cause erosion. Scour velocities depend on topography, soils, and runoff rates.

Show Cause Hearing – A hearing for which a violator of this Ordinance must provide reason why a proposed enforcement action by the County Engineer should not be undertaken.

Stop Work Order (SWO) – A legal order issued by the County Engineer to stop construction because of non-compliance to this Ordinance.

Storm water – Water derived solely and directly from rainfall or snowmelt runoff and appearing as overland flow, flow in drainage conveyances, or flow in natural watercourses and man-made waterways.

Storm Water Permit – Authorization issued by the County to conduct construction activities.

Storm Water Pollution Prevention Plan (SWPPP or SWP3) – A plan that describes the practices, and the procedures for their implementation, that are to be used to reduce the pollutants in storm water discharges associated with construction or other industrial activity at a facility. Plan must be approved and/or sealed by a Professional Engineer or a Certified Professional in Erosion and Sediment Control (CPESC).

Storm Water Quality Plan – A plan describing how construction is to be performed and how the site closure is to be accomplished, including post-construction control measures, at a construction site. A Storm Water Quality Plan is required to obtain a Storm Water Permit from the County.

Texas Pollution Discharge Elimination System (TPDES) permit – Texas Pollution Discharge Elimination System permit issued by the TCEQ for the discharge of storm waters pursuant to authority delegated to the State by the EPA for issuance of TPDES permits.

TPDES Permitting Authority – The environmental agency that is responsible for the oversight and enforcement of the TPDES Phase II MS4 Storm Water Permit is the TCEQ.

Urban forestry – A low impact site design technique that utilizes environmentally sensitive practices and promotes the planting of trees and other vegetation to help control erosion and improve the quality of storm water runoff from construction sites within urbanized areas.

Warning Notice – A notice issued by the County Engineer stating that a discharge is in violation of this Ordinance and requesting that the cause of discharge be investigated and that any violations be stopped.

Waters of the U.S. – All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters, including interstate wetlands; all other waters in which the use, degradation, or destruction would affect or could affect interstate or foreign commerce; all impoundments of waters otherwise defined as waters of the United States under this definition; all tributaries of waters identified in this definition; all wetlands adjacent to waters identified in this definition; and any waters within the federal definition of “waters of the United States” at 40 CFR 122.2; but not including any waste treatment systems, treatment ponds, or lagoons designed to meet the requirements of the federal Clean Water Act.

Wetland – An area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and which under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Working day – Any calendar day, 8 a.m. to 5 p.m., but not including Saturday, Sunday, any legal holiday recognized by the County or any day for which the County offices are closed for ordinary and general business.

SECTION VII. ILLICIT DISCHARGES

A. Discharge Prohibitions

1. Prohibition of Illegal Discharges

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause and/or contribute to a violation of applicable water quality standards, other than storm water.

The commencement, conduct, or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

- a. The following discharges are exempt from discharge prohibitions established by this Ordinance: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian

habitat or wetland flows, swimming pool draining, fire fighting/training activities, tidal intrusion, and any other water source not containing pollutants.

- b. Discharges specified in writing by the County as being necessary to protect public health and safety.
- c. Dye testing is an allowable discharge, but requires a verbal notification to the County prior to the time of the test.
- d. The prohibition shall not apply to any non-storm water discharge permitted under a TPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the TPDES Permitting Authority, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

2. Prohibition of Illicit Connections

- a. The construction, use, maintenance, or continued existence of illicit connections to the storm drain are prohibited.
- b. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- c. A person is considered to be in violation of this Ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

B. Suspension of MS4 Access

1. Suspension due to Illicit Discharges in Emergency Situations

- a. The County Engineer may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or Waters of the United States or as described in Section XI.G.
- b. If the violator fails to comply with a suspension order issued in an emergency, the County Engineer may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the United States, or to minimize danger to the public.

2. Suspension due to the Detection of Illicit Discharge

- a. Any person discharging to the MS4 in violation of this Ordinance may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The County Engineer will notify a violator of the proposed termination of its MS4 access. The violator may petition the County for a reconsideration and hearing (See SECTION XII).
- b. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior approval of the County Engineer.

SECTION VIII. CONSTRUCTION STORM WATER MANAGEMENT

A. General Provisions

1. Construction Related Violations

- a. Construction not conducted in accord with the requirements of this Ordinance shall be deemed a violation of this Ordinance.
- b. Construction not initiated or terminated within the time frame authorized by the County Engineer by notice, permit, or license when such authorization is required by this Ordinance, shall be a violation of this Ordinance.
- c. It shall be a violation of this Ordinance to not comply with requirements for timely application for a Storm Water Permit and requirements for a Storm Water Quality Plan.

2. Pollution Prevention Requirements

- a. Any and all owners and/or operators of a construction site and any and all other persons undertaking construction activities as a contractor or subcontractor at a construction site shall use Best Management Practices pursuant to the construction permit to control, reduce, and prevent, to the maximum extent practicable, the discharge of pollutants to the MS4 and/or waters of the U.S.
- b. The discharge of pollutants to the MS4 and/or waters of the U.S. from activities conducted by said operator, contractor, or subcontractor include but is not limited to: sediment, silt, earth, soil, dirt, sand and gravel; lime, liquids, solids, and semi-solids used for soil treatment, preparation, or amendment; concrete, slurries, grout, tar, and asphalt; construction vehicle cleaning and wash waters; construction vehicle maintenance fluids such as hydraulic fluids, lubricants, fuels, brake fluids, and coolants; hazardous or extremely hazardous materials; materials resulting from repair, renovation, or demolition such as concrete, reinforcing bar, steel, wire, tar paper, roofing materials, sheet rock,

plaster, wood, cellar dirt and carpeting; residual and surplus construction materials; paint, paint thinner, paint equipment cleaner and wastewater from the cleaning of painting equipment and supplies; waste construction material packaging and containers; and construction trash, debris, and waste.

3. Stop Work Order (SWO)

- a. Whenever the County Engineer determines that the operation of a construction site has violated, or continues to violate, any provision of this Ordinance, or any order issued hereunder, as it may pertain to the operation of the construction site, the County Engineer may order that a SWO be issued.
- b. When a SWO is issued, it shall be issued to the operator of the construction site for which construction is to stop, be posted at the site, and distributed to all County departments and divisions whose decisions affect any activity at the site.
- c. Unless express written exception is made by the County Engineer, the SWO shall prohibit any and all further construction activity at the site, and shall bar any further inspection or approval by the County of any work associated with a building permit, Storm Water Permit, or any other County approval necessary to commence construction or to assume occupancy at the site.
- d. Issuance of a SWO shall not be a bar against, or a prerequisite for, taking any other action against the construction site operator.

B. Construction Site

1. Site Limits

A construction site is the location and all the areas wherein construction activity, which is all or part of a common development or project, are occurring, proposed to occur, or have occurred, irrespective of whether that construction is in compliance with this Ordinance, irrespective of whether that construction activity is ongoing or temporarily suspended for any purpose, and irrespective of whether the County Engineer has granted authorization to undertake the construction activity. For purposes of this Ordinance, a construction site shall encompass:

- a. all land and surface water areas where the construction activities of any type, including all areas of land surface disturbed by or as a consequence of the construction activities or other activities in support of the construction activities, are undertaken as part of a common plan of development or project;
- b. all areas of land to be disturbed by construction of a common plan of development or project, irrespective of whether such construction is undertaken or planned to be undertaken in one phase or stage or different phases or stages and irrespective of whether such construction is undertaken or planned to be undertaken at different, separate, or simultaneous times;

- c. all areas of land where the land is to be disturbed by construction of a common plan of development or project, irrespective of whether undertaken at contiguous or separate locations within the general area encompassed by the common plan of development or project, provided such boundary lies on or is within the boundary of property collectively owned or leased by one or more parties undertaking any or all of the construction activities; and
- d. all areas of ongoing, temporarily suspended, yet-to-be undertaken, and completed construction encompassing the totality of the construction activities, irrespective of whether any or all the construction activities are within compliance with this Ordinance.

2. Redefining of Construction Site Limits

The County Engineer shall have the right to redefine, for purposes of compliance with this Ordinance, the limits of a construction site in extent and amount necessary and sufficient in the judgment of the County Engineer to prevent the actual or potential discharge of pollutants from the construction site to the MS4 or waters of the U.S. to the maximum extent practicable, provided the limits so defined lies on or within the boundary of property collectively owned or leased by one or more operators undertaking any or all of the construction activities at the site.

3. Cessation of Construction Site

A construction site shall, for the purposes of this Ordinance, cease to be a construction site only at such time that all requirements for closure of the construction site as specified by this Ordinance have been met.

C. Operators and Applicants

1. Operator Responsibility

A construction operator shall be fully responsible for compliance with all requirements of this Ordinance for construction activities, as may be applicable to the type of construction activities being conducted, proposed to be conducted, or that have been conducted by the operator at a construction site, including but not limited to making application for a Storm Water Permit, preparing a Storm Water Quality Plan, and performing closure of the construction site.

a. Change in Operator

In the event that the operator of the construction site changes, all or in part, any and all Storm Water Permits, and Storm Water Quality Plans for construction yet to be completed must name the new and continuing operators' names. Any permits, plans, or notices that have been issued or approved by the County for the construction to the original operator(s) must be reissued or re-approved, as appropriate, with the name(s) of the new operator(s) in the same manner as the

original operator, such re-issuance or re-approval being obtained no later than ten (10) working days after such change.

2. Applicant

For the purpose of any applications for construction activities that may be required by this Ordinance, an applicant is the person or persons making such application and is:

- a. An operator at the property upon which construction is proposed or is taking place.

3. Division of Responsibility

In the event the operator of a construction site is more than one legal entity, the applicant shall be considered responsible and held liable for complying with this Ordinance.

D. Construction Activities

1. Types of Construction Activities

Construction activities are those activities which result in exposure of raw soil on a temporary or permanent basis and may include, but are not necessarily limited to, one or more of the following activities or practices when such activities are done for the purpose(s) of:

- smoothing,
- clearing,
- removing trees and vegetation,
- configuring or shaping the land surface or subsurface;
- modifying drainage, drainage patterns, drainage conveyances, or drainage facilities;
- removing, destroying, or demolishing existing structures, surfaces or facilities;
- preparing the land for construction of roads, highways, curbs, gutters, drainage devices, vehicle parking, buildings, structures, walls, roofs, floors, pads, foundations, tanks, basements, pipes, or utilities.

2. Construction Conduct

- a. Any construction at a construction site shall be performed so as to reduce, to the maximum extent practicable, the discharge of sediments and other pollutants from the construction site.
- b. An owner and/or operator of a construction site shall maintain on-site and make available for inspection by the County Engineer any notice permit or license for construction, and any pollution control plan that may be required by this Ordinance or other state or federal regulation.

- c. Application for a Storm Water Permit shall be submitted to the County Engineer at least ten (10) working days prior to beginning construction activities of any type, including clearing and leveling activities, for any construction site for which construction activities at the site will disturb in total one (1) acre or more of land surface area or is part of a common plan of development that disturbs 1 or more acres of land.
- d. A Storm Water Permit, issued by the County Engineer prior to commencement of construction activities, shall be obtained for any construction site for which construction activities at the site will disturb in total one (1) acre or more of land surface area or is part of a common plan of development that disturbs 1 or more acres of land.
- e. A Storm Water Quality Plan shall be submitted to, and approved by, the County Engineer prior to commencement of any construction activity at a construction site for which a Storm Water Permit is required.
- f. The County Engineer shall require that a construction site of any size conform to any and all conditions of this Ordinance for construction activities if the County Engineer determines that such requirements are necessary to prevent a significant discharge of pollutants to the County's MS4 or waters of the U.S., or are necessary because of imminent harm to the public or the environment.

3. Closure and Final Stabilization of Construction Site

a. Closure Activities

Construction activities at a site, for the purposes of this Ordinance, shall not be complete until proper closure of the site has been accomplished. Until such time proper closure has been achieved, the operator of the site is subject to all applicable requirements for conduct and completion of construction activities at the construction site. Any operator of a construction site shall complete all construction activities at a construction site in compliance with the requirements of this Ordinance for proper closure.

b. Proper Closure

Proper closure includes, but is not limited to, the following:

- i. Final stabilization of the site;
- ii. Removal of all construction surplus and residual materials, supplies, packaging, drums, cans, and containers;
- iii. Removal of all surplus and residual soaps, cleaners, pastes, mastics, solvents, materials for soil amendment or preparation and similar construction materials;

- iv. Removal of all excess, surplus, and unused construction vehicle maintenance fluids, including lubricants, fuels, brake fluids, and coolants;
- v. Removal of all wastes, trash, and debris;
- vi. Removal of any waste bins, enclosures, drums, or similar containers which are not intended to serve as permanent waste storage containers at the site;
- vii. Removal of all temporary storm water pollution control devices, structures, and materials;
- viii. If not intended for removal in County approved plans or specifications for the site, and to the extent a construction operator or their activities are responsible for the damage or loss of function or capacity of storm water conveyances and appurtenances:
 - 1) Repair or replacement of damaged storm water conveyances and appurtenances;
 - 2) Repair or replacement of damaged drainage works and facilities; and
 - 3) Restoration of proper function and capacity of storm water conveyances.

4. Permit Termination and Expiration

A construction sites permit is terminated automatically when all of the requirements listed under proper closure section of this ordinance is met. Permit coverage will automatically terminate two (2) years after the permit issuance date. If continued permit is needed beyond the termination or expiration date, a new permit must be issued.

5. Inactive Construction Sites

A construction site for which active and ongoing on-site construction activities have halted for a period of thirty (30) continuous calendar days and for which proper closure actions as required by this Ordinance have not been conducted, shall be considered in violation of this Ordinance, unless the construction site owner and/or operator has demonstrated to the satisfaction of the County Engineer that:

- a. Such lack of active and ongoing on-site construction activity is a result of only temporary suspension of activities; and
- b. Site conditions are and will be maintained in a condition satisfactory to prevent the discharge of pollutants to the County's MS4 or waters of the U.S. to the maximum extent possible during the period of temporary suspension of construction activities.

E. Storm Water Permit

1. General Provisions

- a. A Storm Water Permit authorizes a construction owner and/or operator to conduct construction activities. Obtaining a Storm Water Permit does not relieve an owner and/or operator of complying with any and all applicable requirements of this Ordinance exclusive of those dealing with construction.
- b. A Storm Water Permit shall be obtained prior to the start of any construction activity at a site by application to the County Engineer by the owner and/or operator of the construction site at which construction occurs or is proposed, such application providing such information the County Engineer may require.
- c. Application for a Storm Water Permit shall require the submission of a Storm Water Quality Plan developed in accordance with the guidance document to the County Engineer for review, such plan shall provide information that will reduce the discharge of pollutants from the site to the maximum extent practicable.
- d. The Storm Water Permit must be obtained from the County Engineer at least two (2) working days prior to commencement of construction. Only that construction activity which is described in the Storm Water Permit can be undertaken.
- e. The Storm Water Permit shall be posted at the construction site, and no construction activity can occur prior to the date of commencement, or after the date of termination, authorized by the Storm Water Permit.
- f. Construction must be started no later than (180) calendar days after the date of commencement of constructions specified in the Storm Water Permit. Failure to begin construction within the specified time frame will render the Storm Water Permit void.
- g. Application for a change in the date of commencement of construction or the date of termination of construction specified in a Storm Water Permit, must be made at least two (2) working days prior to: (1) the date of the proposed change for commencement; and/or (2) the date of the originally specified termination date or latest previously approved date of extension.
- h. If for any reason the Storm Water Permit is suspended, revoked, terminated, or voided, construction activity at the site shall immediately cease.

2. Contents of a Storm Water Permit

- a. Address or other description of location of the construction site;

- b. Name and address of the construction site owner and/or operator, either property owner or lessee, and name and address of general construction contractor, if different from property owner or lessee;
- c. Name, address, and business telephone number of the construction site owner and/or operator's on-site representative;
- d. Earliest date of commencement of construction activity;
- e. Proposed dates of termination of construction activity, completion of final stabilization activities, and closure of the site;
- f. Practices to be employed for site stabilization during the course of the construction;
- g. Description of means by which the site is to be stabilized during suspension of construction activity for periods of fourteen (14) or more days and permanently stabilized by the time of completion of construction activities;
- h. Any other information the County Engineer may deem necessary, whether or not required of any other owner and/or operator making application for a Storm Water Permit; and
- i. Certification by the applicant for the Storm Water Permit that the information provided on the Storm Water Permit application is true and accurate.

3. Amendment to Storm Water Permit

- a. Application for amendment to a Storm Water Permit can be made at any time ten (10) or more working days prior to the time identified in the Storm Water Permit for completion of construction activities, provided the person(s) making application is not in violation of this Ordinance.
- b. If the application for amendment to a Storm Water Permit requires a change in the Storm Water Quality Plan in order for the Storm Water Quality Plan to remain true and accurate should construction be undertaken in accordance with the amendment, an appropriately modified Storm Water Quality Plan shall also be provided at the time of application for amendment to the County Engineer.

4. Late Filing of Amendment To a Storm Water Permit

- a. If application for amendment to a Storm Water Permit is made less than two (2) working days prior to the time for which the activities or conditions described by the amendment are to occur, exist or come about, and such activities or conditions are not authorized by the Storm Water Permit prior to

application for amendment, the application shall be deemed to be a Late Filing of Storm Water Permit Amendment.

- b. A Late Filing of Storm Water Permit Amendment shall meet all the same conditions and requirements as application submitted more than two (2) working days prior to the time for which the activities or conditions described by the amendment are to occur, exist or come about, and include other such information the County Engineer may require.
- c. Construction to be undertaken in accord with a Late Filing of Storm Water Permit Amendment shall not be undertaken until such amendment is approved by the County Engineer.
- d. Approval by the County Engineer of a Late Filing of Storm Water Permit Amendment or payment of any fees for such filing shall not relieve the applicant from any or all administrative enforcement remedies, judicial enforcement remedies, enforcement actions, or other remedies allowed by this Ordinance.

5. Exemptions

Exemptions from requirements for a Storm Water Permit and Storm Water Quality Plan shall apply for the following situations or conditions:

- a. The construction activity is undertaken at a single or multiple family residential property site for the sole purpose of maintenance of the residential property site;
- b. The County Engineer determines the construction is necessary on an emergency basis because of imminent harm or endangerment to the public or environment, in which case the construction may be continued only so long as such imminent harm or endangerment or threat of harm or endangerment exists;
- c. The County Engineer may provide a waiver to the requirement for a Storm Water Permit upon the request of the owner and/or operator seeking such waiver. The waiver is to be provided only if the construction for which waiver is sought is demonstrated to the satisfaction of the County Engineer to meet all of the following conditions:
 - i. Will not contribute to a violation of this Ordinance or any permit or license the County may hold to discharge storm water;
 - ii. The construction activity is of such size, extent, magnitude, or location as to neither allow, cause, or have potential to cause a significant discharge of sediments or other pollutants to the County's MS4 or waters of the U.S.;
 - iii. There is a compelling public interest for issuance of a waiver;

- iv. It is in the general interest of the health and safety of people in the County or protection of the environment that such waiver be provided, such interest not to be based upon cost or economic considerations as they may apply to or affect the owner and/or operator seeking waiver of the permit; and
- v. Other such conditions the County Engineer may deem necessary to ensure that significant discharge of sediment and other pollutants does not occur.

F. Storm Water Quality Plan

A Storm Water Quality Plan is required for a County Storm Water Quality Permit. The Storm Water Quality Plan shall be prepared in accordance with the guidance document and good pollution control practices.

The main objective of the plan is to identify potential sources of pollution, including sediment, which may reasonably be expected to affect the quality of storm water discharges associated with construction and development. The plan must describe the implementation of best management practices (BMPs), which will be used to reduce the pollutants in storm water discharges associated with construction and post-development runoff.

Storm Water Quality Plans shall be retained on site during the course of construction and shall be available for inspection by the County upon request.

1. Contents of Storm Water Quality Plan

a. Site Description

- i. A description of the construction activity;
- ii. A copy of any development plans;
- iii. A proposed construction schedule;
- iv. Total area of the site, and total disturbed area, including off-site staging/storage areas;
- v. A description of the existing vegetation at the site, including coverage;
- vi. The location of other sources of pollution, such as vehicle fueling, storage of chemicals, concrete washout areas, etc.; and
- vii. The name of the receiving water(s) and description of any outfalls (size, type, and location), if the discharge is to a MS4, the name of the system, the location of the storm sewer discharge, and the ultimate receiving water(s).

b. Best Management Practices (BMPs)

The plan should indicate locations for and descriptions of control measures that will be used. The plan should clearly describe the implementation of BMPs relevant to each phase of site development such as:

- i. before clearing and grading activities begin;
- ii. during all phases of construction; and
- iii. post-construction/post development.

c. Control Measures

i. Construction Phase

Construction phase control measures to be described in the Storm Water Quality Plan may include, but are not limited to, the following:

1) Temporary Sediment Control Measures

- a) silt fence
- b) sand bag berms
- c) hay bales
- d) check dams
- e) interceptor swales/dikes

2) Temporary Stabilization Measures

- a) temporary seeding
- b) erosion control blankets/matting
- c) mulch/compost
- d) temporary sodding

3) Final Stabilization Measures

- a) permanent seeding
- b) permanent sodding
- c) impervious surfaces

ii. Post-Construction Phase

Post-construction phase control measures shall be incorporated into the Storm Water Quality Plan to preserve pre-development hydrologic regimes. These control measures do not apply to residential home construction. Post-construction phase control measures to be described in the Storm Water Quality Plan may include, but are not limited to, the following:

1) Velocity Dissipation Measures

a) On-Site

- i) vegetated swales
- ii) check dams
- iii) vegetated filter strips

b) Off-Site

- i) surrounding local topography
- ii) concrete-lined drainage channels

2) Pre-development Peak Flow Preservation

a) On-Site

- i) detention basins/ponds
- ii) constructed wetlands
- iii) bio-retention
- iv) wet basins

b) Off-Site

- i) in-line detention
- ii) outfall pump systems

3) Low Impact Development Standards

For construction sites located within watersheds that are considered to be impaired by the Texas Commission for

Environmental Quality, or in buffer zones designated by the County, the owner and/or operator of the site, may be required, at the discretion of the County Engineer, to utilize Low Impact Development Standards that include, but are not limited to:

a) Minimization of the width or size of:

i) roads/streets

ii) sidewalks

iii) cul-de-sacs

iv) parking lots

b) Open-space design

c) Urban forestry

d) Roof drainage control

4) Guidance Documents for Developers

The County will make available, upon request, a Post-Construction Control Measures Guidance and Low-Impact Development Standards Guidance for owners and/or operators, i.e. developers, of new and re-development projects.

d. Commitment of Long Term Maintenance of On-Site Post-Construction Control Measures

For new and significant redevelopment projects that are determined by the County to require on-site control post-construction control measures such as detention ponds, constructed wetlands, bio-retention systems, or the like, the developer shall be required to make a long term commitment to the County for maintenance of the said control measure(s).

- i. An affidavit (supplied by the County), signed by the developer, or the person or persons who will be responsible for the maintenance of the control measure(s), must be submitted to the County Engineer no later than two (2) calendar days after the date of termination of construction, and will serve as a legal commitment to the County.
- ii. Once an affidavit has been submitted to the County Engineer, the County Engineer may require that a Performance Bond be issued to ensure the maintenance is performed according to the said legal commitment.

e. Good Housekeeping

The plan should include inspection and maintenance procedures during the entire construction phase to ensure that BMPs are in good and effective operation condition.

i. Inspections

- 1) An inspection of the entire construction site shall be performed by the operator every fourteen (14) calendar days and following a rainfall of at least 0.5 inches, or every 7 days.
- 2) Complete an inspection report for each inspection performed.
- 3) Inspection reports should be retained on site as part of the Storm Water Quality Plan.

ii. Maintenance

- 1) Maintenance shall be performed on applicable BMPs as soon as possible in areas identified in the inspection reports.
- 2) Maintenance shall be performed in accordance with manufacturer's specifications or other sources determined by the County Engineer to be acceptable.

f. Revisions to Storm Water Quality Plan

- i. The Storm Water Quality Plan shall accurately reflect site conditions and the construction activities proposed to be undertaken. Revisions necessary to maintain an accurate and up-to-date Storm Water Quality Plan shall be made in a timely fashion but in no case later than two (2) working days after the occurrence of conditions or activities requiring such revisions.
- ii. If the conditions or activities described by a Storm Water Quality Plan revision could be reasonably expected to result in an increase in the actual or potential discharge of pollutants from the site, such revision must be approved by the County Engineer prior to implementation of the proposed revision at least two (2) working days prior to the implementation of activities described by the revision.
- iii. The County Engineer shall have ten (10) working days to approve or reject a revision to a Storm Water Quality Plan after submittal of a proposed revision. If the County Engineer does not issue an approval or rejection of the revision within the acceptable time frame, the revision(s) shall be assumed to be approved.

G. Storm Water Pollution Prevention Plan (SWP3)

1. For a construction site that is five (5) or more acres and that is required by state or federal regulation to have a SWP3, the SWP3 shall be prepared in accordance with applicable state and federal regulations.
2. For a construction site that is one (1) or more acres but less than five (5) acres or is part of a common plan of development that disturbs 1 or more acres of land and that is required by state or federal regulation to have a SWP3, the SWP3 shall be prepared in accordance with applicable state and federal regulations.
3. Any storm water pollution prevention plan required by federal or state regulation shall be retained on site during all phases of construction and a copy must be submitted to the County. Failure to produce such required SWP3s shall be grounds for issuance of a SWO.
4. The County Engineer may request and receive in a timely fashion, at the time of, or after application for a Storm Water Permit, a copy of any SWP3 required by federal or state regulation for discharge of storm waters from a construction site. Failure to provide such requested pollution control plan within a timeframe specified by the County Engineer shall be grounds for a SWO.
5. The County Engineer may require additional information, plans, or specifications to be provided in an SWP3 for a construction site if the County Engineer determines such additional information, plans, or specifications are necessary to prevent the discharge of pollutants to the MS4 or waters of the U.S.

SECTION IX. NOTIFICATION OF SPILLS

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or waters of the U.S., said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the County Engineer in person or by phone or facsimile no later than the next working day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the County Engineer within three (3) working days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the action taken to prevent its recurrence. Such records shall be retained for at least five (5) years.

SECTION X. CITIZEN REPORTS OF VIOLATIONS

A. Report by Any Person

Any person shall have the right to report to the County Engineer or an office designated by the County Engineer, any spill, release, illicit connection or other instance of anyone (as may be identified by name, title, employing company, legal identity, commonplace name, or other description) discharging into the MS4 or waters of the United States, and any other violation of this Ordinance of which the person becomes aware.

B. Action Upon Report

The County Engineer or a designated County office shall receive all such reports by telephone, electronic mail transmission, in writing or in person. A written or electronic record of each such report will be maintained and kept on file for a period of at least eight (8) years by the County, and a copy of the County's record of the report will be furnished to the reporting person upon request at no charge. Also upon request, the County Engineer will inform the person making such report of any action undertaken by the County in response to such report.

SECTION XI. ENFORCEMENT

A. Warning Notices

1. When the County Engineer finds that any person has violated, or continues to violate, any provision of this Ordinance, or any other order issued hereunder, the County Engineer may serve upon that person a written Warning Notice specifying the particular violation determined to have occurred and requesting the violator to immediately investigate the violation and initiate preventative or corrective actions to stop the conditions causing, contributing to or resulting in the violation.
2. Investigation or resolution of the matter in response to the Warning Notice in way may relieve the alleged violator of liability for any violations occurring before or after receipt of the Warning Notice.
3. Nothing in this subsection shall limit the authority of the County Engineer to take any action, including emergency action or any other enforcement action, prior to issuing a Warning Notice.

B. Notification of Violation (NOV)

1. When the County Engineer finds that any person has violated, or continues to violate, any provision of this Ordinance, or any order issued hereunder, the County Engineer may serve upon that person a written NOV. Within ten (10) calendar days of the receipt of such notice, an explanation of the violation and a plan for the satisfactory correction and prevention of recurrence thereof, including specific required actions, shall be submitted by the alleged violator to the County Engineer. If the alleged violator denies that any violation occurred, or contends that no corrective action is necessary, an explanation of the basis of any such denial or contention shall be

submitted to the County Engineer within ten (10) calendar days of receipt of the notice.

2. Submission of an explanation or plan in no way relieves the alleged violator of liability for any violations of this Ordinance or any state or federal regulation occurring before or after receipt of the NOV.
3. Nothing in this section shall limit the authority of the County Engineer to take any action, including emergency action or any other enforcement action, without first issuing a NOV.

C. Consent Orders

The County Engineer may enter into Consent Orders, assurances of voluntary compliance, or other written agreements with any person for noncompliance with any provision in this Ordinance or any order issued hereunder. Such agreements may include specific action to be taken by the person to correct the noncompliance within a time period specified by the agreement. Such agreements shall have the same force and effect as administrative orders issued pursuant to this Ordinance and shall be judicially enforceable.

D. Show Cause Hearing

The County Judge may order any person who has violated, or continues to violate, any provision of this Ordinance, or any order issued hereunder, to appear before the County Judge and show cause why a proposed enforcement action should not be taken. Notice shall be served on the alleged violator specifying the time and place for the hearing, the proposed enforcement action, the reasons for such action and a request that the alleged violator show cause why the proposed enforcement action should not be taken. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) calendar days prior to the hearing. Such notice may be served on any representative of the alleged violator. The hearing shall be conducted pursuant to the rights and procedures specified in this Ordinance.

E. Compliance Order

1. When the County Judge finds that any person has violated, or continues to violate, any provision of this Ordinance, or any order issued hereunder, the County Judge may issue a Compliance Order to the violator directing that the violator come into compliance with this Ordinance within a specified time limit. Compliance Orders also may contain other requirements to address the noncompliance, including self-monitoring and implementation of best management practices designed to minimize the amount of pollutants discharged to the MS4 and waters of the U.S.
2. A Compliance Order may not extend the deadline for compliance established by a state or federal standard or requirement.
3. A Compliance Order does not relieve a person of liability for any violation, including any continuing violation.

4. Issuance of a Compliance Order shall not be a bar against, or a prerequisite for, any other action against the violator.

F. Remediation, Abatement and Restoration Orders

1. When the County Judge finds that any person has violated, or continues to violate, any provision of this Ordinance, or any order issued hereunder, and the County Engineer has reasonable evidence to suspect that such a violation has adversely affected the MS4 or waters of the U.S., the County Judge may issue a Remediation, Abatement and Restoration Order to the violator directing said violator to undertake and implement any appropriate action the County Judge may designate to remediate or abate any adverse effects of the violation upon the MS4, and to restore any part of the MS4 within the County that has been harmed, provided such ordered actions are limited to actions lying within County boundaries. Such remediation, abatement, and restoration actions may include but shall not be limited to:
 - a. Monitoring, assessment, and evaluation of the adverse effects and determination of the appropriate remedial, abatement, or restoration actions;
 - b. Confinement, removal, cleanup, treatment, and disposal of any discharged or released pollution or contamination;
 - c. Prevention, minimization, or mitigation of any damage to the public health or the environment that may result from the violation; and
 - d. Restoration or replacement of County property or natural resources damaged by the violation.
2. The Remediation, Abatement, and Restoration Order may direct that the remediation, abatement, or restoration be accomplished on a specified compliance schedule and be completed within a specified period of time.
3. The cost for preparation, implementation, construction, and maintenance of any remediation, abatement, or restoration as may be ordered by the County Judge shall be borne by the person to whom the County Judge has issued such order.
4. An order issued under this subsection does not relieve the violator of liability for any violation, including any continuing violation.
5. Issuance of an order under this subsection shall not be a bar against, or a prerequisite for, taking any other action against any responsible party.

G. Emergency Cease and Desist Orders

1. When the County Engineer finds that any person has violated, or continues to violate, any provision of this Ordinance, or any order issued hereunder, or that the person's past violations are likely to recur, and that the violation(s) has caused or contributed to an actual or threatened discharge to the MS4 or waters of the U.S. which

reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the County Engineer may issue an Emergency Cease and Desist Order to the violator directing said violator to immediately cease and desist all such violations and directing the violator to:

- a. Immediately comply with all Ordinance requirements;
 - b. Terminate any discharges which the County Engineer determines to present an imminent or substantial endangerment to persons or to the environment; and
 - c. Take such appropriate preventative action as may be needed to properly address a continuing or threatened violation, including immediately halting operations, terminating the discharge or both.
2. Any person to which an Emergency Cease and Desist Order has been directed, shall, upon receipt of such Order, immediately take action to stop or eliminate the endangering discharge. In the event of said person's failure to immediately comply voluntarily with said Order, the County Engineer may take such action(s) as deemed necessary to prevent or minimize harm to the MS4 or waters of the U.S. or endangerment to persons or to the environment. Such actions may include, but are not limited to, immediate termination of water supply, sewer connection or other municipal utility service provided to said person; any facility owned, leased or operated all or in part by said person; or any site for which said person is all or in part an owner or lessee.
 3. The County Engineer shall allow the person to whom an Emergency Cease and Desist Order has been issued to recommence discharges when the County Engineer determines that the period of endangerment has passed, unless further termination proceedings are initiated against the person to whom the order was issued.
 4. A person that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a written statement, in a form as may be acceptable to the County Engineer, describing the causes of the harmful discharge and measures taken or to be taken within a timely fashion to prevent any future occurrence, to the County Engineer within fourteen (14) calendar days of receipt of the emergency order.
 5. Issuance of an Emergency Cease and Desist Order shall not be a bar against, or a prerequisite for, taking any other action against the violator.

SECTION XII. RIGHTS TO RECONSIDERATIONS, HEARING AND APPEALS

A. Reconsideration of and Hearing of Petitions

1. Any person subject to a Stop Work Order; Compliance Order; a Remediation, Abatement and Restoration Order; or an Emergency Cease and Desist Order may petition in writing the County Judge to reconsider the basis for the order within

- fourteen (14) calendar days of the affected person's notice of issuance of such an order.
2. Failure to submit a written Petition for Reconsideration within fourteen (14) calendar days of the affected person's notice of issuance of such an order shall be deemed to be a waiver of any further right to administrative reconsideration or review of the order.
 3. In its Petition for Reconsideration, the petitioning party must indicate the provisions of the order objected to, the reasons for the objection(s), any facts that are contested, the evidence that supports the petitioner's view of the facts, any alternative terms of an order that the petitioner would accept, and whether the petitioning party requests a hearing on its petition.
 4. The effect of any Compliance Order; and any Remediation, Abatement, and Restoration Order shall be stayed pending the County Judge's consideration of the Petition for Reconsideration, and any hearing thereon, unless the County Judge expressly makes a written determination to the contrary. The effectiveness of any Emergency Cease and Desist Order shall not be stayed pending the County Judge's reconsideration, or any hearing thereon, unless the County Judge expressly and in writing stays the Emergency Cease and Desist Order.
 5. Within fourteen (14) calendar days of the submittal of a Petition for Reconsideration, the County Judge shall either: (1) grant the petition and withdraw or modify the order accordingly; (2) deny the petition, without hearing if no material issue of fact is raised; or (3) if a hearing has been requested and a material issue of fact has been raised, schedule a Show Cause Hearing on the petition.
 6. Written notice of any hearing set by the County Judge as a result of a Petition for Reconsideration shall be served on the petitioning party personally or by registered or certified mail (return receipt requested) at least ten (10) calendar days prior to the hearing. Such notice may be served on any authorized representative of the petitioning party.
 7. The County Judge may conduct the hearing and take evidence, or may designate any employee of the County or any specially-designated attorney or engineer to:
 - a. Issue the name of the County notices of hearing requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in the hearing;
 - b. Take and gather evidence; and
 - c. Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the County Engineer for action thereon.

8. At any hearing held pursuant to a Petition for Reconsideration, testimony taken shall be under oath and recorded. Any party is entitled to legal representation and may present his or her case or defense by oral or documentary evidence and may conduct such cross-examination as may be required for a full and true disclosure of the facts. A transcript will be made available to any party to the hearing upon payment of the usual charges thereof.
9. After the County Judge has reviewed the evidence, the County Judge shall either: (1) grant the petition; (2) deny the petition; or (3) grant the petition in part and deny it in part. The County Judge may modify the order giving rise to the Petition for Reconsideration as may be the appropriate based upon the evidence and arguments presented at the hearing and the County Judge's action on the petition. Further orders and directives, as are necessary and appropriate, may be issued.

SECTION XIII. CIVIL AND CRIMINAL PENALTIES

A. Penalties

Any person that has violated or continues to violate any provision of this Ordinance is subject to civil, criminal and/or administrative penalties, as applicable, under Texas Water Code, Chapters 7, 26, 27, and 28 and the Texas Health and Safety Code, Chapter 361.

B. Civil Remedies

Any person that has violated or continues to violate any provision of this Ordinance is subject to civil penalties and injunctive relief provided under Texas Water Code, Chapters 7 and 26.

C. Criminal Penalties

1. Any person who has violated any provision of this Ordinance, or any order issued hereunder has also violated Chapter 26, 27 or 28 of the Texas Health & Safety Code, and shall be strictly liable for such violation and shall, upon conviction, be subject to a fine and confinement.
2. Any person who has knowingly made any false statement, representation or certification in any application, record, report, plan, or other documentation filed or required to be maintained pursuant to this Ordinance, or any order issued hereunder, or who has falsified, tampered with, or knowingly rendered inaccurate any monitoring device or method required under this Ordinance shall, upon conviction, be subject to a fine per violation, per day.

SECTION XIV. RIGHT OF ENTRY

The County Engineer and/or his appointed representative may, where reasonable cause exists, with or without a warrant issued by a court of competent jurisdiction, enter upon any property for examination of the same to ascertain whether a violation of the requirements of this Ordinance has occurred or is occurring and shall be exempt from any legal action or liability on account thereof.

SECTION XV. VIOLATORS DEEMED PUBLIC NUISANCE

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisances may be taken.

SECTION XVI. REMEDIES NOT EXCLUSIVE

The remedies listed in this Ordinance are not exclusive of any other remedies available under any applicable federal, state, or local law and it is within the discretion of the County Engineer to seek cumulative remedies.

SECTION XVII. ADOPTION OF ORDINANCE

This Ordinance shall be in full force and effect ___ days after its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this Ordinance are hereby repealed

PASSED AND ADOPTED this ___ day of _____, 20___, by the following vote:

Guilford County, NC

7. BMP Inspection and Maintenance

7.1. The Importance of Maintaining BMPs

Most of this manual is devoted to proper design of stormwater BMPs, a task that requires a significant investment of effort and expense. Once they are constructed, BMPs are crucial in protecting water quality from the impacts of development projects. If designed correctly, BMPs can also be an aesthetic asset to the development. However, no matter how well they are designed and constructed, BMPs will not function correctly nor look attractive unless they are properly maintained. Most maintenance problems with BMPs are less costly to correct when they are caught early – as the old adage goes, “an ounce of prevention is worth a pound of cure.”

Regular inspection and maintenance is an ongoing legal requirement after the BMP is constructed – inspections must be completed at appropriate times throughout the year and inspection records must be available upon request. An appropriate professional should conduct BMP inspections. NC State University offers a BMP Inspection and Maintenance Certification Program; more information is available at their web site: <http://www.bae.ncsu.edu/people/faculty/hunt/>.

This chapter will discuss the logistical issues associated with BMP inspection and maintenance as well as provide an overview of some of the tasks associated with maintaining BMPs. Each of the BMP chapters in this manual includes a table explaining the specific inspection and maintenance activities required to ensure the proper functioning of the BMP.

7.2. Legal and Financial Issues

7.2.1. Access and Maintenance Easements

BMPs must have access and maintenance easements to provide the legal authority for inspections, maintenance personnel and equipment. The location and configuration of easements must be established during the design phase and should be clearly shown on the design drawings. The entire footprint of the BMP system must be included in the access and maintenance easement, plus an additional ten or more feet around the BMP to provide enough room to complete maintenance tasks. This BMP system includes the side slopes, forebay, riser structure, BMP device, and basin outlet, dam embankment, outlet, and emergency spillway.

Access and maintenance easements must be designed and built with a concept of the maintenance tasks that may be needed. If heavy equipment will be necessary to perform maintenance tasks (such as for devices with a forebay that will require sediment clean-out), typically a roadway with a minimum width of ten feet to the BMP must be available. Easements are usually owned and maintained by the owner of the BMP facility, whether an individual, a corporation, or a government. Easements for BMPs that are not publicly maintained should include provisions to permit public inspection

and maintenance. An example of an Access and Maintenance Easement Agreement is provided in Appendix C.

7.2.2. Inspection and Maintenance Agreements

BMP facilities are typically built, owned and maintained by non-governmental entities. To insure proper long-term maintenance, a signed and notarized Inspection and Maintenance Agreement must accompany the design plans for any BMP. An Inspection and Maintenance Agreement will include the following:

- The frequency of inspections that are needed (based on the type of BMP proposed).
- The components of the BMP that need to be inspected.
- The types of problems that may be observed with each BMP component.
- The appropriate remedy for any problems that may occur.

Sample Inspection and Maintenance Agreement provisions are included at the end of each BMP chapter. The most effective Inspection and Maintenance Agreements are site-specific for the particular BMP components that are used on the site as well as any conditions that are unique to the site (for example, the presence of steep slopes that should be inspected for soil stability).

Table 7-1
Required Inspection Frequency for BMPs

Inspection Frequency	BMPs
Monthly and within 24 hours after every water quality storm (greater than 1.5 inches in Coastal Counties and greater than 1.0 inch elsewhere)	Stormwater wetlands Wet detention basins Bioretention cells
Quarterly and within 24 hours after every water quality storm (greater than 1.5 inches in Coastal Counties and greater than 1.0 inch elsewhere)	Level spreaders Infiltration devices Sand filters Extended dry detention basins Permeable pavement Rooftop runoff management Filter strips * Grassed swales * Restored riparian buffers *

* Although these devices require quarterly inspection, mowing will usually be done at more frequent intervals during the growing season.

To summarize Table 7-1, devices that include vegetation in a highly engineered system require inspection monthly and after large storm events to catch any problems with flow conveyance or vegetative health before they become serious. All other BMPs should be inspected quarterly and after large storm events.

The signed and notarized Inspection and Maintenance Agreement should be filed with the appropriate Register of Deeds. The responsible party should keep a copy of the Inspection and Maintenance Agreement along with a current set of BMP plans at a known set location.

7.2.3. Inspection and Maintenance Record-Keeping

All inspection and maintenance activities should be recorded. One easy way to do this is to create an Inspection and Maintenance checklist based on the Inspection and Maintenance Agreement. The checklist, at a minimum, should include the following:

- Date of inspection.
- Condition of each of the BMP elements.
- Any maintenance work that was performed (as well as who performed the work).
- Any issues noted for future maintenance (sediment accumulating, vegetation needing pruning or replacement, etc.).

Each project should have a maintenance record. Records should be kept in a log in a known set location. Any deficient BMP elements noted in the inspection should be corrected, repaired or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the removal efficiency of the BMP.

Major repairs or maintenance work should include the same level of inspection and documentation as original installations. Inspection checklists and record logs should be kept in a known set location.

7.2.4. Maintenance Responsibilities

As stated in the section above, maintenance is usually the responsibility of the owner, which in most cases is a private individual, corporation, or homeowners association. Simple maintenance items such as minor landscaping tasks, litter removal, and mowing can be done by the owner, or can be incorporated in conventional grounds maintenance contracts for the overall property.

Although a nonprofessional can undertake many maintenance tasks effectively, a professional should be consulted periodically to ensure that all needs of the BMP facility are met. Some elements that can need professional judgment include structures, outlets, and embankments/dams by a professional engineer, as well as plant system health by an appropriate plant professional. Some developing problems may not be obvious to the untrained eye.

In addition, it is advisable to have professionals do the more difficult or specialized work. Filling eroded areas and soil-disturbing activities, such as re-sodding or replanting vegetation, are tasks that are best assigned to a professional landscaping firm. If the work is not done properly the first time, not only will the effort have been wasted, but also the facility may have been damaged by excessive erosion. Grading and sediment removal are best left to professional contractors. Appropriate professionals

(e.g. BMP maintenance specialists, professional engineers, aquatic plant specialists, etc.) should be hired for specialized tasks such as inspections of vegetation and structures.

7.2.5. Providing for Maintenance Expenses

The expenses associated with maintaining a BMP are highly dependent on the BMP type and design. However, the most important factor that determines the cost of BMP maintenance is the condition of the drainage area upstream of the BMP. If a drainage area conveys a high load of sediment and other pollutants to a BMP, the cost of maintaining the BMP will increase dramatically. Preventing pollution in the drainage area as much as possible will reduce the cost of BMP maintenance.

A funding mechanism should be created and regularly funded with an amount that provides enough money to pay for the maintenance expenses over the lifetime of the BMP. One option is to establish an escrow account, which can be spent solely for sediment removal, structural, biological or vegetative replacement, major repair, or reconstruction of the BMPs. In the case of a residential subdivision, the escrow account could be funded by a combination of an initial payment by the developer and regular contributions by the homeowners' association. For an example of how to legally structure such an account, please see the Phase II model stormwater ordinance at the Division of Water Quality's web site:

http://h2o.enr.state.nc.us/su/phase_2_mod_ord.htm.

Routine maintenance costs are relatively easy to estimate, and include the expenses associated with the following activities:

- Conducting BMP inspections at the intervals shown in Table 7-1.
- Maintaining site safety, including any perimeter fences and other access inhibitors (trash racks or pipe grates).
- Removing trash.
- Removing sediment that has accumulated in any components of the BMP.
- For infiltration-type systems, maintaining the filtering media and cleaning or replacing it when necessary.
- Restoring soils to assure performance.
- Pruning woody vegetation pruning.
- Replacing dead vegetation.
- Stabilizing any eroding side slopes.
- Repairing damaged or eroded outlet devices and conveyance systems.
- Repairing embankments, dams, and channels due to erosion or rodents.

Emergency maintenance costs are more difficult to estimate. They depend on the frequency of occurrence and the nature of the problem, which could vary from storm erosion repairs to complete failure of a structure.

7.3. Summary of BMP Maintenance Tasks

7.3.1. Emergency Maintenance

Maintenance after floods and other emergencies requires immediate mobilization. It can include replanting and repairs to structures. Living systems are likely to need at least minor repairs after emergencies. Following an emergency such as a flood, standing water may pose health risks because of mosquitoes. Mosquito control should be considered if this becomes a problem.

For all installations obstructions and debris deposited during storm events should be removed immediately. Exceptions include debris that provides habitat and does not damage vegetation or divert currents to, from, or in the BMP. In fact, because of the high quality habitat that can be found in woody debris, careful re-positioning rather than complete removal may be desirable. There may be instances where debris is even added. Such locations should be noted so that this debris is not accidentally removed. Educating adjacent property owners about the habitat benefits of debris and vegetation can decrease requests for removal.

7.3.2. Debris and Litter Removal

Regularly removing debris and litter is well worth the effort and can be expected to help in the following ways:

- Reduce the chance of clogging in outlet structures, trash racks, and other facility components.
- Prevent damage to vegetated areas.
- Reduce mosquito breeding habitats.
- Maintain facility appearance.
- Reduce conditions for excessive surface algae.
- Reduce the likelihood of stagnant pool formation.

Special attention should be given to removing floating debris, which can clog the outlet device or riser.

7.3.3. Sediment Removal and Disposal

Sediment gradually accumulates in many BMPs. For most BMPs, accumulated sediment must eventually be removed. However, removal intervals vary so dramatically among facilities that no “rules of thumb” are applicable. The specific setting of a BMP is important in determining how often sediment must be removed. Important factors that determine rates of sedimentation include the current and future land uses upstream and the presence of other sediment-trapping BMPs upstream.

Before installing a BMP, designers should estimate the lifetime sediment accumulation that the BMP will have to handle. Several time periods may be considered, representing expected changes in land use in the watershed. To estimate sediment accumulation, first,

an estimate of the long term sediment load from upstream is needed, then an estimate of BMP sediment removal efficiency (see Sections 3.0 and 4.0). The analysis of watershed sediment loss and BMP efficiency can be expedited by using a sediment delivery computer model.

The frequency of sediment removal is then based on the sediment accumulation rate described above versus the amount of sediment storage volume that is inherently provided in the BMP without affecting treatment efficiency or stormwater storage volume. Again, the frequency of sediment removal is BMP and site specific, and could be as frequent as every couple years, or as long as 15-25 years. The volume of sediment needing to be removed and disposed of per dredging cycle is the volume calculated above multiplied by any density or dewatering factors, as appropriate.

Wet sediment is more difficult and expensive to remove than dry sediment. Ideally, the entire facility can be drained and allowed to dry sufficiently so that heavy equipment can operate on the bottom. Provisions for draining permanent pools should be incorporated in the design of water impoundments where feasible. Also, low flow channels and outlets should be included in all BMPs to bypass stormwater flow during maintenance. However, in many impoundments periodic rainfall keeps the sediment soft, preventing access by heavy equipment. In these cases, sediment may have to be removed from the shoreline by using backhoes, grade-alls, or similar equipment.

Proper disposal of the sediment removed from a BMP is required. It is least expensive if an onsite area or a nearby site has been set aside for the sediment. This area must be located outside of the floodplain. If such a disposal area is not set aside, transportation and landfill tipping fees can greatly increase the cost of the BMP, especially where disposal of wet sediment is not allowed in the local landfill. Often, the material must be dewatered before disposal, which again adds more cost and requires land area where wet material can be temporarily placed to dry.

Sediment removal is usually the largest single cost of maintaining a BMP facility, so the necessary funds should be allocated in advance. Since sediment removal costs are so site specific and dependent on disposal plans, it is difficult to provide good estimates. Actual estimates should be obtained during the design phase of the BMP from sediment removal contractors based on the planned situation. The estimates should include: mobilization expenses, sediment removal expenses, material transport expenses (if applicable), and disposal expenses (if applicable).

7.3.4. Stability and Erosion Control

The best way to promote soil stability and erosion control is to maintain a healthy ground cover in and around BMPs. Areas of bare soil quickly erode, potentially clogging the facility with soil and threatening its integrity. Therefore, bare areas must be re-stabilized as quickly as possible. Newly seeded areas should be protected with mulch and/or an erosion mat that is securely staked. For BMP's that rely on filtration, such as bioretention facilities, it is critical that adjacent soils do not contaminate the selected media during or after construction. If the site is not permanently stabilized with

vegetation when the filter media is installed, the best design practice is to specify sod or other robust erosion control practices for all slopes in and immediately around the BMP.

Erosion is quite common in or around the inlet and outlet of the BMP facility and should be repaired as soon as possible. Erosion control activities should also extend to areas immediately downstream of the BMP.

The roots of woody growth such as young trees and bushes in embankments are destabilizing. Consistent mowing of the embankment controls stray seedlings that take root. Woody growth, such as trees and bushes, further away from the embankment should not pose a threat to the stability of the embankment and can provide important runoff filtering benefits. Trees and bushes should be planted outside maintenance and access areas.

Animal burrows also diminish the structural integrity of an embankment. Muskrats, in particular, burrow tunnels up to 6 inches in diameter. Efforts should be made to control animal burrowing. Burrows should be filled as soon as possible.

7.3.5. Maintenance of Mechanical Components

Each type of BMP may have mechanical components that need periodic attention. For example, valves, sluice gates, fence gates, locks, and access hatches should be functional at all times. The routine inspection, exercising, and preventive maintenance on such mechanical components should be included on a routine inspection/maintenance checklist.

7.3.6. Vegetation Maintenance

Vegetation maintenance is an important component of any maintenance program. The grasses and plants in all BMPs, but particularly in vegetative BMPs such as filter strips, grass swales, restored riparian buffers, bioretention facilities, and stormwater wetlands, require regular attention. The development of distressed vegetation, bare spots, and rills indicates that a BMP is not functioning properly. Problems can have many sources, such as:

- Excessive sediment accumulation, which clogs the soil pores and produces anaerobic conditions.
- Nutrient deficiencies or imbalances, including pH and potassium.
- Water-logged conditions caused by reduced soil drainage or high seasonal water table.
- Invasive weeds.

The soil in vegetated areas should be tested every other year and adjustments made to sustain vigorous plant growth with deep, well-developed root systems. Aeration of soils is recommended for filter strips and grassed swales where sediment accumulation rates are high. Ideally, vegetative covers should be mown infrequently, allowing them to develop thick stands of tall grass and other plant vegetation. Also, trampling from pedestrian traffic should be prevented.

Areas immediately up- and downstream of some BMP plant installations often experience increased erosion. Although properly designed, located, and transitioned installations experience this effect to only a minor degree, all erosion should be repaired immediately to prevent spreading. Live stakes, live fascines, and other soil bioengineering techniques, possibly in combination with 3-D geotextiles, can be applied to erosion in natural drainage ways with minor grading.

Table 7-2 below describes some specific vegetation maintenance activities at various types of BMPs. It is important to note that DWQ has some specific requirements related to some management practices, such as those performed within buffers, that must be followed. In addition, any vegetation that poses threats to human safety, buildings, fences, and other important structures should be removed. Finally, vegetation maintenance activities naturally change as the project ages from construction, when the vegetation is still getting established, to a mature state.

7.3.7. Maintenance of the Aquatic Environment

An important yet often overlooked aspect of non-routine maintenance of BMPs that maintain a permanent pool of water is the need to regularly monitor and manage conditions to promote a healthy aquatic environment. An indicator of excess nutrients (a common problem) is excessive algae growth in the permanent pool of water. In most cases, these problems can be addressed by encouraging the growth of more desirable aquatic and semi-aquatic vegetation in and around the permanent pool. The plants selected should be tolerant of varying water levels and have a high capacity to incorporate the specific nutrients associated with the problem. If algae proliferation is not addressed, algae-laden water will be washed downstream during rain events and may contribute to nuisance odors and stresses in downstream aquatic habitat.

7.3.8. Insect Control

Ponded water can function as breeding grounds for mosquitoes and other insects. Mosquito problems can be minimized through proper design and maintenance. The best control technique for BMPs that maintain a permanent pool of water is to ensure that it does not develop stagnant areas. BMPs with permanent pools should include a source of steady dry-weather flow. Promptly removing floatable debris helps eliminate areas where water can collect and then stagnate. In larger basins, fish, which feed on mosquito larvae, can be stocked. Additionally, splash aerators can be employed to prevent stagnant water, however, this requires electricity at the site, increases maintenance costs, and must be properly designed so as to not decrease the settling efficiency of the BMP.

Table 7-2
Vegetation Maintenance for BMPs

Maintenance Activity	Instructions
Replacement of Dead Plants	All dead plants should be removed and disposed of. Before vegetation that has failed on a large scale is replaced, the cause of such failure should be investigated. If the cause can be determined, it should be eliminated before any reinstallation.
Fertilization	The objective of fertilizing at a BMP is to secure optimum vegetative growth rather than yield (often the objective with other activities such as farming). Infertile soils should be amended before installation and then fertilized periodically thereafter. Fertilizer can be composed of minerals, organic matter (manure), compost, green crops, or other materials.
Irrigation/ Watering	Watering of the vegetation can often be required during the germination and establishment of the vegetation, as well as occasionally to preserve the vegetation through drought conditions. This can typically be accomplished by pumping water retained in the BMP or from the stream, installing a permanent irrigation system or frost-proof hose bib, or using portable water trucks.
Mulching	Mulching should be used to maintain soil temperature and moisture, as well as site aesthetics. A half-inch layer is typically adequate. Ideally, mulch should be removed before winter to prevent an infestation of rodents.
Weeding	Weeding is often necessary in the first growing season, particularly if herbaceous grasses are out-competing the young woody vegetation growth. The need for weeding may be largely eliminated by minimizing the amount of seed used for temporary erosion control. Weeding may also be required if, over time, invasive or undesirable species are entering the site and out-competing plants that are specifically involved in the treatment of the stormwater.
Cultivating/ Hoeing	Hoeing is often required to loosen overly compacted soil and eliminate weeds that compete with the desirable vegetation.
Pruning	Pruning is used to trim to shape and remove dead wood. It can force single-shoot shrubs and trees to assume a bushier configuration.
Thinning	Thinning dense brush may be necessary for particular species to thrive, increase the vigor of individual specimens, to reduce flow obstructions, and to increase the ability of maintenance staff to access the entire BMP. Tall maturing trees, for the most part, have no place in a BMP (except for buffers) and should be removed as soon as possible.
Staking	Saplings of tall trees planted in or near the BMP may require staking. Care should be taken not to damage the tree's roots with stakes. Stakes should be kept in place for 6 to 18 months, and the condition of stakes and ties should be checked periodically.
Wound Dressing	The wounds on any trees found broken off or damaged should be dressed following recommendations from a trained arborist.

Table 7-2, continued
Vegetation Maintenance for BMPs

Maintenance Activity	Instructions
Disease Control	Based on monitoring observations, either insecticides or (preferably) organic means of pest and fungal control should be used.
Protection from Animals and Human Foot Traffic	Fencing and signage should be installed to warn pedestrians and to prevent damage due to trampling. These measures are often most necessary during the early phases of installation but may be required at any time. Measures for controlling human foot traffic include signs, fencing, floating log barriers, impenetrable bushes, ditches, paths, and piled brush. Wildlife damage is caused by the animals browsing, grazing, and rubbing the plants. The use of chemical wildlife repellents should be avoided. Fences and meshes can be used to deter entry to the BMP. Tree tubes can be used to prevent damage to individual specimens.
Mowing	Mowing of perennial herbaceous grasses and wildflowers, especially once seed heads have set, promotes redistribution of seed for this self-sustaining system. Mowing should be carefully controlled, however, especially when performed for aesthetics. As adjacent property owners and customers in general learn more about BMPs, their vision of what is aesthetically pleasing can change. Grasses, in healthy herbaceous stands, should never be mown more than once per year.

7.3.9. Maintenance of Other Project Features

All other devices and features associated with the BMP should be monitored and maintained appropriately. These additional items could affect the safety or aesthetics of the facility, which can be as important if not more important than the operational efficiency of the facility. Such items could include:

- Fences
- Access roads
- Trails
- Lighting
- Signage (e.g. no trespassing, emergency notification contact information, etc.)
- Nest boxes
- Platforms
- Watering systems

September 28, 2007 Changes:

1. Footer: Corrected from October 2006 to July 2007.

Seymour, CT

POST-CONSTRUCTION STORMWATER ORDINANCE

1.0 PURPOSE AND AUTHORITY

In accordance with the provisions of Chapters 98, 124, 126, 440, 444 and 446h of the General Statutes of the State of Connecticut, as amended, the Town of Seymour hereby adopts the following Stormwater Management Ordinance for the following purposes:

To protect, maintain and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control the adverse impacts associated with post-construction stormwater runoff. Proper management of stormwater runoff will minimize damage to public and private property, reduce the effects of development on land and wetlands, control stream channel erosion, reduce local flooding, improve water quality, and maintain after development, as nearly as possible, the pre-development runoff characteristics.

The provisions of this ordinance are pursuant to Connecticut State Statutes 7-148 (c) (8) (A)¹, 8-2 (a)², 8-25³, and 22a-36 to 22a-45 inclusive⁴, and 8-2(b)⁵ and shall apply to all development occurring within the incorporated area of Town of Seymour, Connecticut. The application of this ordinance and provisions expressed herein shall be the minimum stormwater management requirements and shall not be deemed a limitation or repeal of any other powers granted by State statute. The agencies defined in section 2.0 as the “responsible agency” shall be responsible for the coordination and enforcement of the provisions of this ordinance.

1.1 INCORPORATION BY REFERENCE

For the purpose of this ordinance, the Connecticut Stormwater Quality Manual (as amended) is incorporated by reference by the Town of Seymour, Connecticut and shall serve as the official guide for stormwater principles, methods, and practices.

¹ Municipal Powers: The municipality has the power to “Provide for the protection and improvement of the environment including, but not limited to, coastal areas, wetlands and areas adjacent to waterways in a manner not inconsistent with the general statutes.

² Regulations: The zoning commission is authorized to adopt regulations “...to secure safety from ...flood and other dangers; to promote health and the general welfare...”

³ Subdivision of land: Authorizes the zoning commission to see “...that proper provision shall be made for... drainage...” and “that proper provision shall be made for protective flood control measures...”

⁴ The Inland Wetlands and Watercourses Act.

⁵ “In any municipality that is contiguous to Long Island Sound the regulations adopted under this section shall be made with reasonable consideration for restoration and protection of the ecosystem and habitat of Long Island Sound and shall be designed to reduce hypoxia, pathogens, toxic contaminants and floatable debris in Long Island Sound. Such regulations shall provide that the zoning commission consider the environmental impact on Long Island sound of any proposal for development.”

POST-CONSTRUCTION STORMWATER ORDINANCE

2.0 DEFINITIONS

For the purpose of this ordinance, the following definitions describe the meaning of the terms used in this ordinance:

- (1) "Adverse impact" means any deleterious effect on waters or wetlands, including their quality, quantity, surface area, species composition, aesthetics or usefulness for human or natural uses which are or may potentially be harmful or injurious to human health, welfare, safety or property, to biological productivity, diversity, or stability or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation.
- (2) "Agricultural land management practices" means those methods and procedures used in the cultivation of land in order to further crop and livestock production and conservation of related soil and water resources.
- (3) "Applicant" means any person, firm, or governmental agency who executes the necessary forms to procure official approval of a project or a permit to carry out construction of a project.
- (4) "Aquifer" means porous water bearing geologic formation generally restricted to materials capable of yielding an appreciable supply of water.
- (5) "BMP (Best Management Practice)" means a structural device or nonstructural practice designed to temporarily store or treat stormwater runoff in order to mitigate flooding, reduce pollution, and provide other amenities.
- (6) "Clearing" means the removal of trees and brush from the land but shall not include the ordinary mowing of grass. [Note: The IWC definition of "clear-cutting is a timber harvest that removes all trees down to a 2" diameter at breast height. "Clearing" for the purposes of stormwater management has to do with the removal of vegetative cover]
- (7) "DEP" means the Connecticut Department of Environmental Protection.
- (8) "Design Manual" means the most current edition of the Connecticut Stormwater Quality Manual that serves as the official guide for the stormwater management principles, methods, and practices.
- (9) "Detention structure" means a permanent structure for the temporary storage of runoff, which is designed so as not to create a permanent pool of water.
- (10) "Develop land" means to change the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial, municipal, or institutional construction or alteration.
- (11) "Direct discharge" means the concentrated release of stormwater to tidal waters or vegetated tidal wetlands from new development or redevelopment projects in the Critical Area.

POST-CONSTRUCTION STORMWATER ORDINANCE

2.0 DEFINITIONS (continued)

- (12) "Drainage area" means an area that contributes runoff to a single point measured in a horizontal plane, which is enclosed by a ridgeline.
- (13) "Easement" means a grant or reservation by the owner of land for the use of such land by others for a specific purpose or purposes, and which must be included in the conveyance of land affected by such easement.
- (14) "Exemption" means those land development activities that are not subject to the stormwater management requirements contained in this ordinance.
- (15) "Extended detention" means a stormwater design feature that provides gradual release of a volume of water in order to increase settling of pollutants and protect downstream channels from frequent storm events. Methods for designing extended detention BMPs are specified in the Design Manual.
- (16) "Extreme flood volume" means the storage volume required to control those infrequent but large storm events in which overbank flows reach or exceed the boundaries of the 100- year floodplain.
- (17) "Flow attenuation" means prolonging the flow time of runoff to reduce the peak discharge.
- (18) "Grading" means any act by which soil is cleared, stripped, stockpiled, excavated, scarified, filled or any combination thereof.
- (19) "Infiltration" means the passage or movement of water into the soil surface.
- (20) "IWC" means the Inlands Wetlands Commission of the Town of Seymour, Connecticut
- (21) "Off-site stormwater management" means the design and construction of a facility necessary to control stormwater from more than one development.
- (22) "On-site stormwater management" means the design and construction of systems necessary to control stormwater within an immediate development.
- (23) "Peak runoff attenuation" means controlling by structural practices the volume to prevent an increase in the frequency of out of bank flooding generated by development.
- (24) "Groundwater recharge volume (GRV)" means that portion of the water quality volume used to maintain groundwater recharge rates at development sites. Methods for calculating the groundwater recharge volume are specified in the Design Manual.
- (25) "Redevelopment" means any construction, alteration, or improvement exceeding 5000 square feet of land disturbance performed on sites where existing land use is commercial, industrial, municipal, institutional or multifamily residential.

POST-CONSTRUCTION STORMWATER ORDINANCE

2.0 DEFINITIONS (continued)

- (26) “Responsible agency”
- (a) The **Inland Wetlands Commission (IWC)** and its agent/s for stormwater runoff impacting wetlands and watercourses. (For the purposes of only this paragraph, the definition of “wetlands” and “watercourse” is the definition used in the most current version of the Inland Wetland and Watercourses regulations of the Town of Seymour.)
 - (b) The **IWC**, it’s agent/s and the town Engineering for stormwater runoff from roads and sidewalks.
 - (c) The **IWC**, it’s agent/s and the town Engineering for all other stormwater runoff.
- (27) “Responsible official” is the official or officials in The **IWC** designated to deal with stormwater management issues.
- (28) "Retention structure" means a permanent structure that provides for the storage of runoff by means of a permanent pool of water.
- (29) “Retrofitting” means the construction of a structural BMP in a previously developed area, the modification of an existing structural BMP, or the implementation of a nonstructural practice to improve water quality over current conditions.
- (30) "Sediment" means soils or other surficial materials transported or deposited by the action of wind, water, ice, or gravity as a product of erosion.
- (31) "Site" means:
- (a) For “new development” any tract, lot or parcel of land or combination of tracts, lots, or parcels of land, which are in one ownership, or are contiguous and in diverse ownership where development is to be performed as part of a unit, subdivision, or project.
 - (b) For “redevelopment” the area of new construction as shown on an approved site plan, or the original parcel. The **IWC** shall make final determination of the applicable area.
- (32) "Stabilization" means the prevention of soil movement by any of various vegetative and/or structural means.
- (33) "Stormwater management" means the selective use of various management measures to effectively address the adverse water quality and quantity impacts of urban stormwater runoff.

POST-CONSTRUCTION STORMWATER ORDINANCE

2.0 DEFINITIONS (continued)

- (34) "Stormwater Management Plan" means a set of drawings or other documents that describe the potential water quality and quantity impacts associated with a development project after construction. A stormwater management plan also identifies selected source controls and treatment practices to address those potential impacts, the engineering design of the treatment practices, and maintenance requirements for proper performance of the selected practices.
- (35) "Stream Channel Protection" means restricting peak flows from storm events that result in flow conditions where the stream is flowing to the full extent of its banks so the damaging effects to the channel of increased runoff from urbanization can be reduced. Methods for calculating stream channel protection are specified in the most current edition of the Connecticut Stormwater Quality Manual.
- (36) "Stripping" means any activity that removes the vegetative surface cover including tree removal, clearing, grubbing and storage or removal of topsoil.
- (37) "Variance" means the modification of the minimum stormwater management requirements for specific circumstances such that strict adherence to the requirements would result in necessary hardship and not fulfill the intent of this ordinance.
- (38) "Waiver" means the relinquishment from stormwater management requirements by the **IWC** for a specific development on a case-by-case review basis.
- (a) "Qualitative stormwater management waiver" includes water quality volume and groundwater recharge volume design parameters.
 - (b) "Quantitative stormwater management waiver" includes stream channel protection, peak runoff attenuation, and extreme flood volume design parameters. [See note on definition regarding extreme flood volume]
- (39) "Watercourse" means any natural or artificial stream, river, brook, lake, pond, marsh, swamp, bog, ditch, channel, canal, conduit, culvert, drain, waterway, gully, ravine, wash, and all other bodies of water, natural or artificial, vernal or intermittent, public or private in and including any adjacent area that is subject to inundation from overflow or flood water.]
- (40) "Watershed" means the total drainage area contributing runoff to a single point.
- (41) "Water quality volume" means the volume of runoff generated by one inch of rainfall on the site.

POST-CONSTRUCTION STORMWATER ORDINANCE

3.0 APPLICABILITY

3.1 Scope

No person shall develop land for residential, commercial, industrial, municipal, or institutional uses without having provided stormwater management measures that control or manage runoff from such development, except as provided within this section. The stormwater management measures must be designed consistent with the Design Manual and constructed according to an approved plan for new development or the policies stated in section 3.4 for redevelopment.

3.2 Exemptions

The following development activities are exempt from the provisions of this ordinance and the requirements of providing stormwater management:

- A. Agricultural land management practices;
- B. Developments that do not disturb over 5,000 square feet of land area over the total project

3.3 Waivers / Watershed Management Plans

- A. Stormwater management quantitative control waivers may be granted to projects when the **Inland Wetlands Commission (IWC)** determines that circumstances exist that prevent the reasonable implementation of quantity control practices.
- B. Stormwater management qualitative control waivers apply only to:
 - (1) In-fill development projects where stormwater management implementation is not feasible;
 - (2) Redevelopment projects if the requirements of section 3.4 of this ordinance are satisfied; or
 - (3) Sites where **The IWC** determines that circumstances exist that prevent or make unnecessary the reasonable implementation of quality control practices.
- C. Waivers granted must:
 - (1) Be on a case-by-case basis;
 - (2) Consider the cumulative effects of the waiver policy; and
 - (3) Reasonably ensure the development will not adversely impact stream quality.

3.4 Redevelopment

- A. The recharge, stream channel protection, and peak runoff attenuation requirements specified in the Design Manual do not apply to redevelopment projects unless specified by the **IWC**.

POST-CONSTRUCTION STORMWATER ORDINANCE

3.4 Redevelopment (continued)

- B. All redevelopment projects shall reduce existing site impervious areas by at least 20 percent. Where site conditions prevent the reduction of impervious area, then stormwater management practices shall be implemented to provide qualitative control for at least 20 percent of the site's impervious area. The elements and principles of stormwater qualitative control are noted in the design manual. When a combination of impervious area reduction and stormwater practice implementation is used, the combined area shall equal or exceed 20 percent of the site. [Note: For redevelopment "site" in the definitions section is defined as "...the area of new construction as shown on an approved site plan, or the original parcel. Determination of the applicable area shall be made by the **IWC**.
- C. Where conditions prevent impervious area reduction or on-site stormwater management, the **IWC** may consider practical alternatives including: [check legality of these alternatives]
- (1) Watershed or stream restoration;
 - (2) Retrofitting; or
 - (3) Other practices approved by the **IWC**.

3.5 Variance

The **IWC** may grant a written variance from any requirement of Section 4.0 (Stormwater Management Criteria), of this ordinance if there are exceptional circumstances applicable to the site such that strict adherence will result in unnecessary hardship and not fulfill the intent of this ordinance. A written request for variance shall be provided to the **IWC** and shall state the specific variances sought and reasons for their granting. The **IWC** shall not grant a variance unless and until the person developing land provides sufficient justification.

4.0 STORMWATER MANAGEMENT CRITERIA

4.1 Minimum Control Requirements

- A. The minimum control criteria established in this section and the Design Manual are as follows:
- (1) Shall require that the groundwater recharge volume, water quality volume, and peak runoff attenuation for the 2-year frequency storm event is used to design BMPs according to the Design Manual. Control of the 10-year frequency storm event is required according to the Design Manual if the **IWC** determines that historical flooding problems exist and downstream floodplain development and conveyance system design cannot be controlled.

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4.1 Minimum Control Requirements (continued)

- (2) Shall require that the groundwater recharge volume, water quality volume, and stream channel protection sizing criteria be used to design BMPs according to the Design Manual.
 - (3) The **IWC** may require more than the minimum control requirements specified in this ordinance if hydrologic or topographic conditions warrant or if flooding, stream channel erosion, or water quality problems exist downstream from a proposed project.
- B. Stormwater management and development plans where applicable, shall be consistent with adopted and approved watershed management plans or flood management plans as approved by the DEP in accordance with [site regulation or statute here if such exists].

4.2 Stormwater Management Measures

The structural and nonstructural stormwater management measures established in this ordinance shall be used, either alone or in a combination, in developing a stormwater management plan.

- A. Nonstructural Stormwater Management Measures.
- (1) The following nonstructural stormwater management practices shall be applied according to the Design Manual to minimize increases in new development runoff:
 - (a) Natural area conservation;
 - (b) Disconnection of rooftop runoff;
 - (c) Disconnection of non-rooftop runoff;
 - (d) Sheet flow to buffers;
 - (e) Grass channels; and
 - (f) Environmentally sensitive development.
 - (2) The use of nonstructural stormwater management practices shall be encouraged to minimize the reliance on structural BMPs.
 - (3) The minimum control requirements listed in Section 4.1 of this ordinance may be reduced when nonstructural stormwater management practices are incorporated into site designs according to the Design Manual.
 - (4) The use of nonstructural stormwater management practices may not conflict with existing State or local laws, ordinances, or policies.

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4.2 Stormwater Management Measures (continued)

- (5) Nonstructural stormwater management practices used to reduce the minimum control requirements must be recorded and remain unaltered by subsequent property owners. Prior approval from the **IWC** shall be obtained before nonstructural stormwater practices are altered.
- B. Structural Stormwater Management Measures.
- (1) The following structural stormwater management practices shall be designed according to the Design Manual to satisfy the applicable minimum control requirements established in Section 4.1 of this ordinance.
 - (a) Stormwater ponds;
 - (b) Stormwater wetlands;
 - (c) Stormwater infiltration practices;
 - (d) Stormwater filtering practices; and
 - (e) Water quality swales and grass drainage channels.
 - (2) The performance criteria specified in the Design Manual with regard to general feasibility, conveyance, pretreatment, treatment and geometry, environment and landscaping, and maintenance shall be considered when selecting structural stormwater management practices.
 - (3) Structural stormwater management practices shall be selected to accommodate the unique hydrologic or geologic regions of the state.
- C. Alternative structural and nonstructural stormwater management practices may be used for new development water quality control if they meet the performance criteria established in the Design Manual. Practices used for redevelopment projects shall be approved by the **IWC**.
- D. For the purposes of modifying the minimum control requirements or design criteria, the owner/developer shall submit at the request of the **IWC** an analysis of the impacts of stormwater flows downstream in the watershed. The analysis shall include hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing modifications of the proposed development upon a dam, highway, structure, or natural point of restricted stream flow. The point of investigation is to be established with the concurrence of the **IWC**.

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4.3 Specific Design Criteria

The basic design criteria, methodologies, and construction specifications, subject to the approval of the **IWC** shall be those of the Design Manual.

5.0 STORMWATER MANAGEMENT PLANS

5.1 Review and Approval of Stormwater Management Plans

- A. For any proposed development, the developer shall submit a stormwater management plan or waiver application to the **IWC** for review and approval, unless otherwise exempted. The stormwater management plan shall contain supporting computations, drawings, and sufficient information describing the manner, location, and type of measures in which stormwater runoff will be managed from the entire development. The **IWC** shall review the plan to determine compliance with the requirements of this ordinance prior to approval. The plan shall serve as the basis for all subsequent construction.
- B. Notification of approval or reasons for disapproval or modification shall be given to the applicant along with the **IWC** application approval. If a decision is not made within sixty days (60) the applicant shall be informed of the status of the review process and the anticipated completion date. The stormwater management plan shall not be considered approved without the inclusion of the signature and date of signature of the official on the plan.

5.2 Contents of the Stormwater Management Plan

- A. The developer is responsible for submitting a stormwater management plan that meets the design requirements of this ordinance. The plan shall be accompanied by a report that includes sufficient information to evaluate the environmental characteristics of affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures proposed for managing stormwater runoff. An engineer licensed in Connecticut shall certify on the drawings that all clearing, grading, drainage, construction, and development shall be conducted in strict accordance with the plan. If a stormwater management plan involves direction of some or all runoff off of the site, it is the responsibility of the developer to obtain from adjacent property owners any easements or necessary property interests concerning flowage of water. Approval of a stormwater management plan does not create or affect any right to direct runoff onto adjacent property without that property owner's permission.

The minimum information submitted for support of a stormwater management plan or application for a waiver shall be as follows:

- B. Reports submitted for stormwater management plan approval shall include:
 - (1) A brief narrative description of the project;

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- (2) Geotechnical investigations including soil maps, borings, site-specific recommendations, and any additional information necessary for the proposed stormwater management design;

5.2 Contents of the Stormwater Management Plan (continued)

- (3) Descriptions of all watercourses, impoundments, and wetlands on or adjacent to the site or into which stormwater directly flows;
- (4) Hydrologic computations, including drainage area maps depicting pre development and post development runoff flow path segmentation and land use that demonstrate compliance with Section 4.0 of this ordinance;
- (5) Hydraulic computations;
- (6) Structural computations;
- (7) Unified sizing criteria volume computations according to the Design Manual; and
- (8) Any other information required by the **IWC**.

C. Construction drawings submitted for stormwater management plan approval shall include the following:

- (1) A vicinity map;
- (2) Topography survey showing existing and proposed contours, including the area necessary to determine downstream analysis for proposed stormwater management facilities;
- (3) Any proposed improvements including location of buildings or other structures, impervious surfaces, storm drainage facilities, and all grading;
- (4) The location of existing and proposed structures and utilities;
- (5) Any easements and rights-of-way;
- (6) The delineation, if applicable, of the 100-year floodplain and any on-site wetlands;
- (7) Structural and construction details for all components of the proposed drainage system or systems, and stormwater management facilities.
- (8) All necessary construction specifications;
- (9) A sequence of construction;
- (10) Data for total site area, disturbed area, new impervious area, and total impervious area;
- (11) A table showing the unified sizing criteria volumes described in the Design Manual;
- (12) A table of materials to be used for stormwater management facility planting;

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- (13) All soil boring logs and locations;

5.2 Contents of the Stormwater Management Plan (continued)

- (14) A maintenance schedule;
- (15) Certification by a Connecticut certified engineer that all stormwater management construction will be done according to this plan;
- (16) An as-built certification signature block to be executed after project completion; and
- (17) Any other information required by the **IWC**

5.3 Preparation of the Stormwater Management Plan

- A. A professional engineer licensed in the State shall design and prepare a stormwater management plans as necessary to protect the public and the environment.
- B. If a stormwater BMP requires either a dam safety permit from DEP or small pond approval from the **IWC** shall require that a professional engineer licensed in the State prepare the design.

6.0 PERMITS

6.1 Permit Requirement

A grading or building permit may not be issued for any parcel or lot unless a stormwater management plan has been approved or waived by the **IWC** as meeting all the requirements of this ordinance. Where appropriate, a building permit may not be issued without:

- A. Recorded easements for the stormwater management facility and easements to provide adequate access for inspection and maintenance from a public right-of-way;
- B. A recorded stormwater management maintenance agreement;
- C. A cash bond; and
- D. Permission from adjacent property owners as necessary.

6.2 Permit Fee

A non-refundable permit fee will be collected at the time the stormwater management plan or application for waiver is submitted. The permit fee will provide for the cost of plan review, administration, and management of the permitting process, and inspections by the **IWC** of all projects subject to this ordinance. A permit fee schedule shall be established by the **IWC** based upon the relative complexity of the project and may be amended from time to time.

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6.3 Permit Suspension and Revocation

Any grading or building permit issued by the **IWC** may be suspended or revoked after written notice is given to the permittee for any of the following reasons:

- A. Any violation(s) of the conditions of the stormwater management plan approval.
- B. Changes in site runoff characteristics upon which an approval or waiver was granted.
- C. Construction is not in accordance with the approved plan.
- D. Noncompliance with correction notice(s) or stop work order(s) issued for the construction of the stormwater management facility.
- E. An immediate danger exists in a downstream area in the opinion of the Inland Wetlands and Watercourses Commission, IWWC,.

6.4 Permit Conditions

In granting the plan approval, the **IWC** may impose such conditions that may be deemed necessary to ensure compliance with the provisions of this ordinance and the preservation of the public health and safety.

7.0 SURETY, LETTER OF CREDIT AND /OR INSURANCE

The **IWC** shall require from the developer a Surety, Letter of Credit and /or Insurance prior to the issuance of any building and/or grading permit for the construction of a development requiring a stormwater management facility. The amount of the security shall not be less than the total estimated construction cost of the stormwater management facility. The Surety, Letter of Credit and /or Insurance required in this section shall include provisions relative to forfeiture for failure to complete work specified in the approved stormwater management plan, compliance with all of the provisions of this ordinance, and other applicable laws and regulations, and any time limitations. The Surety, Letter of Credit and /or Insurance shall not be fully released without a final inspection of the completed work by the **IWC** submission of "as-built" plans, and certification of completion by the **IWC** that the stormwater management facilities comply with the approved plan and the provisions of this ordinance. A procedure may be used to release parts of the Surety, Letter of Credit and /or Insurance held by the **IWC** after various stages of construction have been completed and accepted by the **IWC**. The procedures used for partially releasing performance Surety, Letter of Credit and /or Insurance must be specified by the **IWC** in writing prior to stormwater management plan approval.

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8.0 INSPECTION

8.1 Inspection Schedule and Reports

- A. The developer shall notify the engineer responsible for inspections at least 48 hours before commencing any work in conjunction with the stormwater management plan and upon completion of the project when a final inspection will be conducted.
- B. The developer shall retain a professional engineer licensed in the State to conduct inspections. Written inspection reports shall be made of the periodic inspections necessary during construction of stormwater management systems to ensure compliance with the approved plans.
- C. Written inspection reports shall be provided to the developer and the **IWC** and shall include:
 - (1) The date and location of the inspection;
 - (2) Whether construction was in compliance with the approved stormwater management plan;
 - (3) Any variations from the approved construction specifications; and
 - (4) Any violations that exist.
- D. The owner/developer and on-site personnel shall be notified in writing when violations are observed. Written notification shall describe the nature of the violation and the required corrective action.
- E. No work shall proceed until the **IWC** its agent/s or the town Engineer approves the work previously completed. The inspector shall provide the developer and the **IWC** with the results of the inspection reports as soon as possible after completion of each required inspection.

8.2 Inspection Requirements During Construction

- A. At a minimum, inspections shall be made and documented at the following specified stages of construction:
 - (1) For Ponds:
 - (a) Upon completion of excavation to sub-foundation and when required, installation of structural supports or reinforcement for structures, including but not limited to:
 - (i) Core trenches for structural embankments
 - (ii) Inlet and outlet structures, anti-seep collars or diaphragms, and watertight connectors on pipes; and
 - (iii) Trenches for enclosed storm drainage facilities;

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8.2 Inspection Requirements During Construction (continued)

- (b) During placement of structural fill, concrete, and installation of piping and catch basins;
 - (c) During backfill of foundations and trenches;
 - (d) During embankment construction; and
 - (e) Upon completion of final grading and establishment of permanent stabilization.
- (2) Wetlands – at the stages specified for pond construction in 8.2 A (1) of this section, during and after wetland reservoir area planting, and during the second growing season to verify a vegetation survival rate of at least 50 percent.
- (3) For infiltration trenches:
 - (a) During excavation to subgrade;
 - (b) During placement and backfill of underdrain systems and observation wells;
 - (c) During placement of geotextiles and all filter media;
 - (d) During construction of appurtenant conveyance systems such as diversion structures, pre-filters and filters, inlets, outlets, and flow distribution structures; and
 - (e) Upon completion of final grading and establishment of permanent stabilization;
- (4) For infiltration basins – at the stages specified for pond construction in 8.2 A (1) of this section and during placement and backfill of underdrain systems.
- (5) For filtering systems:
 - (a) During excavation to subgrade;
 - (b) During placement and backfill of underdrain systems;
 - (c) During placement of geotextiles and all filter media;
 - (d) During construction of appurtenant conveyance systems such as flow diversion structures, pre-filters and filters, inlets, outlets, orifices, and flow distribution structures; and
 - (e) Upon completion of final grading and establishment of permanent stabilization.

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8.2 Inspection Requirements During Construction (continued)

- (6) For open channel systems:
 - (a) During excavation to subgrade;
 - (b) During placement and backfill of underdrain systems for dry swales;
 - (c) During installation of diaphragms, check dams, or weirs; and
 - (d) Upon completion of final grading and establishment of permanent stabilization.
 - (7) For nonstructural practices – upon completion of final grading, the establishment of permanent stabilization, and before issuance of use and occupancy approval.
- B. The **IWC** may, for enforcement purposes, use any one or a combination of the following actions:
- (1) A notice of violation shall be issued specifying the need for a violation to be corrected if the stormwater management plan noncompliance is identified;
 - (2) A stop work order shall be issued for the site by the **IWC** its agent/s or the town Engineer if a violation persists;
 - (3) Bonds or securities may be withheld or the case may be referred for legal action if reasonable efforts to correct the violation have not been undertaken; or
 - (4) In addition to any other sanctions, a civil action or criminal prosecution may be brought against any person in violation of the Stormwater Management subtitle or this ordinance.
- C. Any step in the enforcement process may be taken at any time, depending on the severity of the violation.
- D. Once construction is complete, as-built plan certification shall be submitted by a professional engineer licensed in the State to ensure that constructed stormwater management practices and conveyance systems comply with the specifications contained in the approved plans. At a minimum, as-built certification shall include a set of drawings comparing the approved stormwater management plan with what was constructed the **IWC** may require additional information.

POST-CONSTRUCTION STORMWATER ORDINANCE

9.0 MAINTENANCE

9.1 Maintenance Inspection

- A. The **IWC** shall ensure that all stormwater management systems are inspected for performance of preventative maintenance. Inspection shall occur during the first year of operation and at least once every three (3) years thereafter. In addition, a maintenance agreement between the owner and the **IWC** shall be executed for privately owned stormwater management systems as described in 9.2 of this section.
- B. The **IWC** shall maintain inspection reports for all stormwater management systems.
- C. Inspection reports for stormwater management systems shall include the following:
- (1) The date of inspection;
 - (2) Name of inspector;
 - (3) The condition of:
 - (a) Vegetation or filter media;
 - (b) Fences or other safety devices;
 - (c) Spillways, valves, or other control structures;
 - (d) Embankments, slopes, and safety benches;
 - (e) Reservoir or treatment areas;
 - (f) Inlet and outlet channels or structures;
 - (g) Underground drainage;
 - (h) Sediment and debris accumulation in storage and forebay areas;
 - (i) Any nonstructural practices to the extent practicable; and
 - (j) Any other item that could affect the proper function of the stormwater management system.
 - (4) Description of needed maintenance.
- D. After notification is provided to the owner of any deficiencies discovered from an inspection of a stormwater management system, the owner shall have 30 days or other time frame mutually agreed to between the **IWC** and the owner to correct the deficiencies. The **IWC** shall then conduct a subsequent inspection to ensure completion of the repairs.
- E. If repairs are not undertaken or are not done properly, then enforcement procedures following 9.2 C of this section shall be followed by the **IWC**.

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9.1 Maintenance Inspection (continued)

- F. If, after an inspection by the **IWC** the condition of a stormwater management facility presents an immediate danger to the public health or safety, because of an unsafe condition or improper maintenance, the **IWC** shall take such action as may be necessary to protect the public and make the facility safe. Any cost incurred by the Town of Seymour shall be assessed against the owner(s), as provided in section 9.2 C.

9.2 Maintenance Agreement

- A. Prior to the issuance of any building permit for which stormwater management is required, the **IWC** shall require the applicant or owner to execute an inspection and maintenance agreement binding on all subsequent owners of land served by a private stormwater management facility. Such agreement shall provide for access to the facility at reasonable times for regular inspections by the **IWC** or its authorized representative to ensure that the facility is maintained in proper working condition to meet design standards.
- B. The applicant and/or owner shall record the agreement in the land records of the Town of Seymour.
- B. The agreement shall also provide that, if after notice by the **IWC** its agent/s or the town Engineer to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) within a reasonable period of time (30 days maximum), the **IWC** may perform all necessary work to place the facility in proper working condition. The owner(s) of the facility shall be assessed the cost of the work and any penalties. This may be accomplished by placing a lien on the property, which may be placed on the tax bill and collected as ordinary taxes by the County/Municipality.

9.3 Maintenance Responsibility

- A. The owner of the property on which work has been done pursuant to this ordinance for private stormwater management facilities, or any other person or agent in control of such property, shall maintain in good condition and promptly repair and restore all grade surfaces, walls, drains, dams and structures, vegetation, erosion and sediment control measures, and other protective devices. Such repairs or restoration and maintenance shall be in accordance with approved plans.
- B. A maintenance schedule shall be developed for the life of any stormwater management facility and shall state the maintenance to be completed, the time period for completion, and who shall perform the maintenance. This maintenance schedule shall be printed on the approved stormwater management plan.

POST-CONSTRUCTION STORMWATER ORDINANCE

10.0 APPEALS

Any person aggrieved by the action of any official charged with the enforcement of this ordinance, as the result of the disapproval of a properly filed application for a permit, issuance of a written notice of violation, or an alleged failure to properly enforce this ordinance in regard to a specific application, shall have the right to appeal in a manner prescribed in the regulations and procedures of the **IWC** and the State of Connecticut.

11.0 SEVERABILITY

If a court of competent jurisdiction holds any portion of this ordinance invalid or unconstitutional, such portion shall not affect the validity of the remaining portions of this ordinance. It is the intent of the Town of Seymour that this ordinance shall stand, even if a section, subsection, sentence, clause, phrase, or portion may be found invalid.

12.0 PENALTIES

Any person convicted of violating the provisions of this ordinance shall be guilty of a misdemeanor, and upon conviction thereof, shall be subject to a fine of not more than Five Thousand Dollars (\$5,000.00) or imprisonment not exceeding 1 year or both for each violation with costs imposed in the discretion of the court. Each day that a violation continues shall be a separate offense. In addition, the **IWC** may institute or cause to be instituted injunctive, mandamus or other appropriate action or proceedings of law to correct violations of this ordinance. Any court of competent jurisdiction shall have the right to issue temporary or permanent restraining orders, injunctions or mandamus, or other appropriate forms of relief.

13.0 EFFECTIVE DATE

PASSED AND ADOPTED this ____ day of _____, 20__.

This ordinance shall be in full force after final passage and adoption and fourteen (14) days after publication in a widely circulated newspaper in the Town of Seymour.

Westminster, CO

CHAPTER 11**STORMWATER QUALITY**

- 8-11-1: PURPOSE AND POLICY**
- 8-11-2: GENERAL REQUIREMENTS**
- 8-11-3: DEFINITIONS**
- 8-11-4: ADOPTION OF STORMWATER QUALITY GUIDELINES**
- 8-11-5: LAND DISTURBANCE PERMIT REQUIREMENTS**
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- 8-11-7: MAINTENANCE REQUIREMENTS**
- 8-11-8: ILLICIT DISCHARGES**
- 8-11-9: LAND DISTURBANCE PERMIT REMEDIATION PROCEDURES**
- 8-11-10: ADMINISTRATIVE ENFORCEMENT REMEDIES**
- 8-11-11: JUDICIAL ENFORCEMENT REMEDIES**
- 8-11-12: SUPPLEMENTAL ENFORCEMENT ACTION**

8-11-1: PURPOSE AND POLICY: (2335 3391) The purpose of this Chapter is to establish procedures to protect and enhance the quality of water discharged into the City's storm drainage system by:

- (A) Requiring measures that prevent erosion and the loss of sediment and other pollutants from construction sites.
- (B) Requiring protection of soil surfaces before, during and after construction.
- (C) Establishing stormwater quality design requirements for the development and redevelopment of property.
- (D) Requiring the use of temporary and permanent Best Management Practices (BMP's) to achieve a reduction in the pollutant loading of stormwater runoff.
- (E) Establishing maintenance requirements for developers, builders, business owners and landowners.
- (F) Prohibition of illicit discharges into the City's storm sewer system.
- (G) Establishment of remediation and enforcement procedures.

8-11-2: GENERAL REQUIREMENTS: (3391)

- (A) Any person who undertakes or causes to be undertaken any activity, which involves disturbance of the surface of land shall ensure that soil erosion, sedimentation, increased pollutant loads and changed water flow characteristics resulting from the activity are controlled so as to minimize pollution of receiving waters. The requirements of this Chapter are minimum standards and a person's compliance with the same shall not relieve such person from the duty of enacting all measures necessary to minimize pollution of receiving waters.
- (B) All temporary erosion control facilities and all permanent facilities intended to control erosion of any earth disturbance operation shall be installed before any earth disturbance operations take place.
- (C) Any earth disturbances shall be conducted in such a manner to effectively reduce soil erosion and resulting sedimentation, and should not exceed the erosion expected to occur for the site in its totally undeveloped state.

(D) All persons engaged in earth disturbances shall design, implement, and maintain acceptable soil erosion and sedimentation control measures, in conformance with the erosion control technical standards adopted by the City.

(E) All earth disturbances shall be designed, constructed and completed in such a manner so that the exposed area of any disturbed land shall be limited to the shortest possible period of time.

(F) Sediment caused by accelerated soil erosion shall be removed from runoff water before it leaves the site of the earth disturbance.

(G) Any temporary or permanent facility designed and constructed for the conveyance of water around, through, or from the earth disturbance area shall be designed to limit the water flow to a non-erosive velocity as defined in the City's "Storm Drainage Design and Technical Criteria Manual".

(H) Temporary soil erosion control facilities shall be removed once final stabilization has been achieved.

(I) Permanent soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within fourteen (14) calendar days after final grading, the final earth disturbance has been completed or in accordance with a City-approved phasing plan. When it is not possible to permanently stabilize a disturbed area after an earth disturbance has been completed or where significant earth disturbance activity ceases, temporary soil erosion control measures shall be implemented within fourteen (14) calendar days. All temporary soil erosion control measures shall be maintained until final stabilization is achieved.

8-11-3: DEFINITIONS: (3391) Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, shall have the following meanings:

(A) **"Applicant"** means a landowner or agent of a landowner who has filed an application for a grading and erosion control permit.

(B) **"Best Management Practices (BMPs)"** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of the municipal separate storm sewer system (MS4). BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

(C) **"Builder"** means a person undertakes construction activities.

(D) **"Business Owner"** means a person who owns title to a commercial property.

(E) **"City Inspector"** means the person or person(s) authorized by the City Manager to inspect a site for the purpose of determining compliance with the provisions of this Chapter.

(F) **"City Manager"** as used in this ordinance refers to the City Manager or the Manager's appointed designee.

(G) **"Compliance Date"** means the final deadline by which a user is required to correct a violation of a prohibition or limitation or to meet a stormwater quality standard or requirement as specified in a compliance schedule, industrial discharge permit or federal, state or local regulation adopting an applicable stormwater quality standard.

(H) **“Compliance Order”** means an administrative order that directs a user to comply with the provisions of this Chapter, or of a permit or administrative order issued hereunder, by a specific date. The order may include a compliance schedule involving specific actions to be completed within specific time periods.

(I) **“Compliance Schedule or Schedule of Compliance”** means an enforceable schedule specifying a date or dates by which user must comply with a stormwater quality standard, a stormwater quality requirement or a prohibition or limitation and which may include increments of progress to achieve such compliance.

(J) **“Construction Activities”** means clearing, grading, excavation, and other ground disturbance activities. Construction does not include routine maintenance performed by public agencies, or their agents to maintain original line grade, hydraulic capacity, or original purpose of facility.

(K) **“Construction Site Operator”** means a person who has been designated by the developer to perform routine inspections of BMPs and who is responsible for ensuring that the structural integrity of the BMPs are maintained and that the BMPs perform as designed.

(L) **“Critical BMPs”** means those BMPs such as, but not limited to, sediment ponds and dewatering structures, silt fence, wattles, vehicle tracking pads, inlet filters, that are installed to keep sediment and pollutants from leaving a construction site and discharging into receiving waters of the United States.

(M) **“Developer”** means a person who undertakes land disturbance activities.

(N) **“Development”** means any activity, excavation or fill, alteration, subdivision, change in land use, or practice, undertaken by private or public entities that affect the discharge of stormwater runoff. The term “development” does not include the maintenance of stormwater runoff facilities.

(O) **“Disturbed Area”** means that area of the land’s surface disturbed by any work activity upon the property by means including but not limited to grading; excavating; stockpiling soil, fill or other materials; clearing; vegetation removal; removal or deposit of any rock, soil, or other materials; or other activities which expose soil. Disturbed area does not include the tillage of land that is zoned agricultural or the tillage of a parcel zoned PUD (planned unit development) within the area identified for agricultural uses.

(P) **“Drainageway (Waterway)”** means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

(Q) **“Final Stabilization”** is reached when all ground surface disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

(R) **“Homeowners Association (HOA)”** means the entity responsible for management and maintenance of those elements of a residential subdivision owned in common by its homeowners.

(S) **“Illicit Discharge”** means any discharge to a municipal separate storm sewer system (MS4) that is not composed entirely of stormwater runoff, or the exceptions listed in section 8-11-8(A) of this Code.

(T) **“Land Disturbance Activity”** means any activity, which changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

(U) **“Landowner”** means 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.

(V) **“Land Disturbance Permit”** means a permit issued by the City to conduct any land disturbance activity equal to or greater than one acre, earthwork involving moving more than two hundred (200) cubic yards or if grading occurs on a property that has a slope in excess of eight percent (8%).

(W) **“MS4”** means a municipal separate storm sewer system.

(X) **“Municipal Separate Storm Sewer System”** means a conveyance or system of conveyances (including but not limited to, roads with drainage system, municipal streets, inlets/catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(1) Owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act that discharges to state waters;

(2) Designed or used for collecting or conveying stormwater;

(3) Which is not a combined sewer; and

(4) Which is not part of a Publicly Owned Treatment Works (POTW).

(Y) **“Non-critical BMPs”** means those BMPs such as, but not limited to, silt fence, wattles, diversions, vehicle tracking pads, inlet filters, that are installed to minimize the impacts of construction by nonstructural and structural devices within the subject construction site.

(Z) **“Official Development Plan (ODP)”** means the planning document, approved by the Westminster City Council, that identifies improvements and other responsibilities associated with the development and/or redevelopment of parcel(s) of land.

(AA) **“Permanent BMPs”** means those BMPs such as, but not limited to, a vegetated swale, wetland, water quality structure, to be installed and regularly maintained in order to ensure long term water quality benefits.

(BB) **“Receiving Waters”** means a river, lake, stream, drainage ditch or other watercourse.

(CC) **“Sediment/Erosion Control Plan”** means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities

(DD) **“Stop Work Order”** means an order issued by the City which requires that all construction activity on a site be stopped.

(EE) **“Stormwater”** means precipitation-induced surface runoff.

(FF) **“Stormwater Construction Permit”** means a permit issued by the Colorado Department of Public Health & Environment Water Quality Control Division. This program is referred to as the Colorado Discharge Permit System, or CDPS, and regulates stormwater discharges from construction activities under the CDPS general permit for stormwater discharges associated with construction activities.

(GG) **“Stormwater Runoff”** means that part of snowfall, rainfall or other precipitation that is not absorbed, transpired, evaporated, or left in surface depressions, and which then flows controlled or uncontrolled into a watercourse or body of water.

(HH) **“Surety”** means a Letter of Credit or cash in the amount of 115% of the cost of constructing or installing all items associated with the Land Disturbance Permit. The surety will guarantee the completion of all terms and conditions of the Land Disturbance Permit as well as payment of any fines and interest assessed due to non-compliance with any section of the Land Disturbance Permit or this ordinance.

(II) **“Temporary BMPs”** means those temporary BMPs such as, but not limited to, silt fence, wattles, vehicle tracking pads, inlet filters, diversions, sediment ponds and dewatering structures, to be installed and regularly maintained until the site is sufficiently stabilized.

(JJ) **“Urban Drainage and Flood Control District” or “UDFCD”** means the District created by section 32-11-101, et seq., C.R.S.

(KK) **“Vegetative Cover”** means grasses, shrubs, bushes, trees, ground cover and other plants.

8-11-4: ADOPTION OF STORMWATER QUALITY GUIDELINES: (2335 3391) The City hereby requires the implementation of structural or non-structural measures to reduce or maintain the quality of stormwater on a temporary or permanent basis. Such measures will be designed and installed based on guidelines presented in VOLUME 3 - BEST MANAGEMENT PRACTICES, URBAN STORM DRAINAGE CRITERIA manual, published by the Urban Drainage and Flood Control District.

8-11-5: LAND DISTURBANCE PERMIT REQUIREMENTS: (3391 3564) A Land Disturbance Permit shall be required prior to conducting any land disturbance activity equal to or greater than one (1) acre, earthwork involving more than two hundred (200) cubic yards, or grading on any property that has a slope in excess of eight percent (8%). The Land Disturbance Permit is available from the Engineering Division in the Department of Community Development. See Section 11-7-7 of the Westminster Municipal Code for specific regulations. Surety must also be provided before a Land Disturbance Permit will be issued.

8-11-6: STORMWATER MANAGEMENT PLAN: (2335 3391) Every development, redevelopment or construction project that requires a land disturbance permit requires the preparation of a stormwater management plan to include temporary and permanent Best Management Practices (BMP’s) designed to reduce the pollutant loading on the system. Any stormwater management plan prepared for a property in the City pursuant to the laws and regulations of the State of Colorado shall be submitted to the City for review and approval.

8-11-7: MAINTENANCE REQUIREMENTS: (3391 3564) Developers, builders, business owners, homeowners associations and landowners shall be responsible for ensuring that all BMPs identified on the approved construction drawings, Official Development Plan and the Land Disturbance Permit application are properly installed, maintained and are in good working order as hereafter provided.

(A) Developers shall be responsible for ensuring that:

(1) Any temporary and/or permanent BMPs installed are being properly maintained and are in good working order;

(2) The site is fully developed and final stabilization has been reached;

(3) Any deficiencies noted by the City prior to the expiration of the warranty period for public improvements have been corrected;

(4) When individual lots have been sold to a Builder, the Developer shall explain the stormwater runoff quality requirements with the Builder at time of closing.

(B) Builders shall be responsible for ensuring that:

(1) Any temporary and/or permanent BMPs installed prior to lot purchase from developer and/or owner are being properly maintained and are in good working order;

(2) Final stabilization as completed by the Developer is maintained or repaired if damaged by the Builder;

(3) Any temporary and/or permanent BMPs necessary for the building site(s) have been properly installed, maintained and remain in good working order until the property has been sold to a business, land or landowner; and

(4) Stormwater runoff quality requirements of individual site(s) are explained to the purchaser at time of closing.

(C) Business owners, homeowners associations and landowners shall be responsible for ensuring that:

(1) Any temporary BMPs installed prior to lot purchase from developer, owner, and/or builder are properly maintained and remain in good working order until the lot is stabilized;

(2) Final stabilization has been achieved and maintained;

(3) If not installed prior to individual lot purchase, temporary and/or permanent BMPs will be installed within ten (10) days from date of purchase at the base of all gutter downspouts and around the perimeter of the site where needed to prevent sediment from moving off-site and maintained until final stabilization has been achieved on the property; and

(4) Permanent stormwater runoff quality measures constructed or installed on their property as shown on the approved Official Development Plan and/or construction plans are properly maintained.

(D) All temporary stormwater runoff quality control measures shall be removed within fourteen (14) calendar days after final stabilization has been achieved and the temporary measures are no longer needed.

(E) Should any developer, builder, business owner, homeowners association or landowner fail to adequately maintain the permanent stormwater runoff quality control measures or fail to remove the temporary measures, the City Manager or his representative may summarily cause the necessary work to be performed at the expense of such responsible party, and the cost of such abatement shall be a first and prior lien on the property as provided by Title I, Chapter 31 of this Code, and may be assessed and collected pursuant to Section 8-4-5 of this Code.

(F) Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

8-11-8: ILLICIT DISCHARGES: (3391 3564)

(A) **Prohibition of Illegal Discharges:** It is unlawful and constitutes a public nuisance for any person to discharge or cause to be discharged or spilled any substance other than naturally occurring stormwater runoff into the City's storm drainage system, except for: return flows from irrigation, de-chlorinated water from swimming pools, water from fire hydrants including water used for fire fighting, discharges from potable water sources, air conditioning condensation, uncontaminated groundwater and other water determined by the City Manager or designee to be non-contaminated and acceptable for return to the storm drainage system and receiving waters. Nothing contained herein shall be construed to relieve any person discharging or causing to be discharged or allowing to be discharged water into the storm drainage system from any liability for damage caused by the volume or quality of water thus discharged.

(B) **Prohibition of Illicit Connections:**

(1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

(C) **Enforcement:** In addition to any other remedies provided in this Chapter, should any person discharge or cause to be discharged or spilled or maintain a condition upon any property that may result in the discharge of any substance other than naturally occurring stormwater runoff into the City's storm drainage system, except for the exceptions listed in section 8-11-8 (A) above, the City Manager or his representative may summarily cause the necessary work to be performed at the expense of such responsible party, and the cost of such abatement shall be a first and prior lien on the property as provided by Title I, Chapter 31 of this Code, and may be assessed and collected pursuant to Section 8-4-5 of this Code. Alternatively, the City may make a demand on the surety to pay for these expenses.

8-11-9: LAND DISTURBANCE PERMIT REMEDIATION PROCEDURES: (3391 3564)

(A) **City Inspector:** If a City inspector, or any other authorized City representative determines that eroded soils are leaving a disturbed area, the City inspector or authorized representative may, in writing, direct the business owner, landowner or such owner's agents or representatives on the site to repair, replace and/or install any sediment and/or erosion controls that were proposed for the site, or require additional sediment and/or erosion controls be installed if deemed necessary by the City inspector or authorized representative to minimize said sediment from migrating off-site, including the issuance of stop work orders and/or suspension or revocation of any permit. It shall be unlawful for any business or landowner or such owner's agents or representatives to fail to take all necessary measures to comply with such written directive and take all measures necessary to prevent soil erosion from migrating off site.

(B) Right of Entry:

(1) The City inspector, or any other authorized City representative shall have the right to enter the premises of any user to determine whether the user is complying with all requirements of this ordinance and any land disturbance permit or order issued hereunder. Users shall allow the City inspector or authorized representative ready access to all parts of the premises for the purposes of inspection, whether announced or unannounced, sampling, records examination and copying, and the performance of any additional duties.

(2) If the City inspector or authorized representative has been refused access to the property and is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program of the City designed to verify compliance with this ordinance or any permit or order issued hereunder, or to protect the overall public health, safety and welfare of the community, then the City inspector or authorized representative may seek issuance of a search warrant from the Municipal Court.

(C) Compliance Orders. Whenever the City determines that any activity is occurring that is not in compliance with a Land Disturbance Permit and/or the requirements of this Chapter, the City may issue a written compliance order to the construction site operator. The schedule shall contain specific actions the construction site operator must complete, including dates for the completion of the actions. It shall be unlawful for any construction site operator to fail to comply with any compliance order requirement.

(D) Suspension and Revocation of Permit. The City may suspend or revoke a construction site Land Disturbance Permit for violation of any provision of this Chapter, violation of the permit, and/or misrepresentations by the permittee or the permittee's agents, employees, or independent contractors.

(E) Stop Work Orders. Whenever the City determines that any activity is occurring which is not in compliance with an approved permit and/or the requirements of this ordinance, the City can order such activity stopped upon service of written notice upon the person responsible for or conducting such activity. Such person shall immediately stop all activity until authorized in writing by the City to proceed. If the appropriate person cannot be located, the notice to stop work shall be posted in a conspicuous place upon the area where the activity is occurring. The notice shall state the nature of the violation. The notice shall not be removed until the violation has been cured or authorization to remove the notice has been issued by the City. It shall be unlawful for any person to fail to comply with a stop work order.

(F) Remedies Not Exclusive. The remedies provided by this Section are in addition to any other remedies set out in this Chapter. Exercise of any such remedy shall not be a bar against, nor a prerequisite for, taking any other action against a violator.

8-11-10: ADMINISTRATIVE ENFORCEMENT REMEDIES: (3391)

(A) Notification of Violation: When the City Manager finds that a user has violated, or continues to violate, any provision of this ordinance, a land disturbance permit or order issued hereunder, or any other stormwater quality standard or requirement, the City Manager may serve upon that user a written Notice of Violation. The Notice of Violation may include specific required actions and may require the user to submit an explanation of the violation and a plan for the satisfactory correction and prevention thereof. Submission of this plan in no way relieves the user of liability for any violations occurring before or after receipt of the Notice of Violation. Nothing in this Section shall limit the authority of the City Manager to take any action, including emergency actions or any other enforcement action, without first issuing a Notice of Violation.

(B) Consent Orders: The City Manager may enter into Consent Orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any user responsible for noncompliance. Such documents will include specific action to be taken by the user to correct the noncompliance within a time period specified by the document. Such documents shall have the same force and effect as the administrative orders issued pursuant to Sections 8-11-10(D) and 8-11-10(E) of this ordinance and shall be judicially enforceable.

(C) Show Cause Hearing: The City Manager may order a user who has violated, or continues to violate, any provision of this ordinance, a land disturbance permit or order issued hereunder, or any other stormwater quality standard or requirement, to appear before the City Manager or designated representative and show cause why the proposed enforcement action should not be taken. Notice shall be served on the user specifying the time and place for the meeting, the proposed enforcement action, the reasons for such action, and a request that the user show cause why the proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least fourteen (14) days prior to the hearing. A show cause hearing shall not be a bar against, or prerequisite for, taking any other action against the user.

(D) Compliance Orders: When The City Manager finds that a user has violated, or continues to violate, any provision of this ordinance, a land disturbance permit or order issued hereunder, or any other stormwater quality standard or requirement, the City Manager may issue an order to the user responsible for the discharge, directing that the user come into compliance within a specified time. If the user does not come into compliance within the time provided, storm sewer service may be discontinued unless adequate Best Management Practices are installed and properly maintained. Compliance orders also may contain other requirements to address the noncompliance, including additional self-monitoring and best management practices designed to minimize the amount of pollutants discharged to the storm sewer. Issuance of a compliance order shall not be a bar against, or a prerequisite for, taking any other action against the user.

(E) Cease and Desist Orders: When the City Manager finds that a user has violated, or continues to violate, any provision of this ordinance, a land disturbance permit or order issued hereunder, or any other stormwater quality standard or requirement, or that the user's past violations are likely to recur, the City Manager may issue an order to the user directing it to cease and desist all such violations and directing the user to:

- (1) Immediately comply with all requirements; and

- (2) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge. Issuance of a cease and desist order shall not be a bar against, or a prerequisite for, taking any other action against the user.

(F) Administrative Fines:

- (1) When the City Manager finds that a user has violated, or continues to violate, any provision of this ordinance, a land disturbance permit or order issued hereunder, or any other stormwater quality standard or requirement, the City Manager may fine such user in an amount not to exceed \$1000.00 per violation per day.

- (2) Unpaid charges, fines, and penalties shall be assessed and accrue interest in accordance with the provisions of Chapter 8 of Title I, Westminster Municipal Code, entitled "Penalties and Interest," as it may be amended from time to time. The City may also collect unpaid fines and interest by placing a demand on the surety provided with the Land Disturbance Permit.

(3) Users desiring to dispute such fines must file a written request for the City Manager to reconsider the fine along with full payment of the fine amount within thirty (30) days of being notified of the fine. Where a request has merit, the City Manager may convene a hearing on the matter. In the event the user's appeal is successful, the payment, together with any interest accruing thereto, shall be returned to the user. The City Manager may add the costs of preparing administrative enforcement actions, such as notices and orders, to the fine.

(4) Issuance of an administrative fine shall not be a bar against, or a prerequisite for, taking any other action against the user.

(G) Emergency Suspensions: The City Manager may immediately suspend a user's discharge, after informal notice to the user, whenever such suspension is necessary to stop an actual or threatened discharge, which reasonably appears to present, or cause an imminent or substantial endangerment to the health or welfare of persons, or which presents, or may present, an endangerment to the environment.

(1) Any user notified of a suspension of its discharge shall immediately stop or eliminate its contribution. In the event of a user's failure to immediately comply voluntarily with the suspension order, the City Manager may take such steps as deemed necessary, including immediate severance of the storm sewer connection, to prevent or minimize damage to the receiving waters, or endangerment to any individuals. The City Manager may allow the user to recommence its discharge when the user has demonstrated to the satisfaction of the City Manager that the period of endangerment has passed.

(2) A user that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful contribution and the measures taken to prevent any future occurrence, to the City Manager prior to the date of any show cause or termination hearing under Sections 8-11-10(C) of this Code.

(H) Nothing in this Section shall be interpreted as requiring a hearing prior to any Emergency Suspension under this Section.

8-11-11: JUDICIAL ENFORCEMENT REMEDIES: (3391 3564)

(A) Injunctive Relief: When the City Manager finds that a user has violated, or continues to violate, any provision of this ordinance, a land disturbance permit, or order issued hereunder, or any other stormwater quality standard or requirement, the City Manager may petition the District Court through the City's Attorney for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the land disturbance permit, order, or other requirement imposed by this ordinance on activities of the user. The City Manager may also seek such other action as is appropriate for legal and/or equitable relief, including a requirement for the user to conduct environmental remediation. A petition for injunctive relief shall not be a bar against, or a prerequisite for, taking any other action against a user.

(B) Civil Penalties:

(1) A user who has violated, or continues to violate, any provision of this ordinance, a land disturbance permit, or order issued hereunder, or any other stormwater quality standard or requirement shall be liable to the City for a maximum civil penalty of \$1000 per violation, per day. In the case of a monthly or other long-term average discharge limit, penalties shall accrue for each day during the period of the violation.

(2) The City may recover reasonable attorneys' fees, court costs, and other expenses associated with enforcement activities, including sampling and monitoring expenses, and the cost of any actual damages incurred by the City.

(3) In determining the amount of civil liability, the Court shall take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained through the user's violation, corrective actions by the user, the compliance history of the user, and any other factor as justice requires.

(4) Filing a suit for civil penalties shall not be a bar against, or a prerequisite for, taking any other action against a user.

(C) Criminal Prosecution:

(1) It shall be unlawful for any person to violate any provision of this Chapter, a Land Disturbance Permit, or order issued hereunder.

(2) It shall be unlawful for any person to introduce any substance into the MSA that causes personal injury or damage.

(3) It shall be unlawful to make any false statements, representations, or certifications in any application, record, report, plan, or other documentation filed, or required to be maintained, pursuant to this Chapter, Land Disturbance Permit, or order issued hereunder.

(4) Any violation of any provision of this Chapter is hereby declared to be a criminal violation which shall be punishable by fine, imprisonment, or both, pursuant to the provisions of W.M.C. Section 1-8-1, as the same may from time to time be amended.

(D) Remedies Nonexclusive: The remedies provided for in this Chapter are not exclusive. The City Manager may take any, all, or any combination of these actions against a noncompliant user. Enforcement of stormwater quality violations will generally be in accordance with the City's enforcement response plan. However, the City Manager may take other action against any user when the circumstances warrant. Further, the City Manager is empowered to take more than one enforcement action against any noncompliant user.

8-11-12: SUPPLEMENTAL ENFORCEMENT ACTION: (3391)

(A) Liability Insurance: The City Manager may decline to issue a certificate of occupancy or reissue a revoked land disturbance permit to any user who has failed to comply with any provision of this ordinance, a previous land disturbance permit, or order issued hereunder, or any other stormwater quality standard or requirement, unless the user first submits proof that it has obtained financial assurances sufficient to restore or repair damage to the MS4 caused by their illicit discharge.

(B) Payment of Outstanding Fees and Penalties: The City Manager may decline to issue a certificate of occupancy or reissue a revoked land disturbance permit to any user who has failed to pay any outstanding fees, fines or penalties incurred as a result of any provision of this ordinance, a previous land disturbance permit, or order issued hereunder.

(C) Water Supply Severance: Whenever a user has violated or continues to violate any provision of this ordinance, a land disturbance permit, or order issued hereunder, or any other stormwater quality standard or requirement, water service to the user may be severed. Service will only recommence, at the user's expense, after it has satisfactorily demonstrated its ability to comply.

(D) Public Nuisances: A violation of any provision of this ordinance, a land disturbance permit, or order issued hereunder, or any other stormwater quality standard or requirement is hereby declared a public nuisance and shall be corrected or abated as directed by the City Manager. Any person(s) creating a public nuisance shall be subject to the provisions of the Westminster Municipal Code governing such nuisances, including reimbursing the City for any costs incurred in removing, abating, or remedying said nuisance.

Portland, OR

Chapter 17.38 Drainage and Water Quality

17.38.010 Authority.

(Amended by Ordinance No. 174745, effective August 25, 2000.) The Director of Environmental Services is responsible for administering the requirements of this Chapter. The Director has the authority and responsibility to adopt rules, procedures, and forms to implement the provisions of this chapter and to maintain a Stormwater Management Manual.

17.38.015 Intent.

(Amended by Ordinance Nos. 182144 and 185397, effective July 6, 2012.) The intent of this Chapter is to provide for the effective management of stormwater, groundwater, and drainage, and to protect and improve water quality in the City of Portland.

17.38.020 Definitions.

(Replaced by Ordinance No. 185397, effective July 6, 2012.) For the purpose of this Chapter, the following definitions shall apply:

A. "Approved Drainage System" means a system approved by BES which adequately collects, conveys, treats or disposes of stormwater runoff or other site discharge. Approved systems must meet all requirements and specifications laid out in this code, BES design manuals and documents, and any applicable plumbing code provisions relating to the piped portions of any system.

B. "Capacity" means the flow volume or rate that a specific facility (e.g., pipe, pond, vault, swale, ditch, or drywell) is designed to safely contain, receive, convey, reduce pollutants from or infiltrate to meet a specific performance standard.

C. "Combination Facilities" means stormwater management systems that are designed to meet two or more of the objectives detailed in the Stormwater Management Manual

D. "Conveyance" means the transport of stormwater, wastewater or other discharge from one point to another point.

E. "Director" means the Director of the Bureau of Environmental Services, or the Director's designee.

F. “Discharge” means any disposal, injection, dumping, spilling, pumping, emitting, emptying, leaching, leaking or placing of any material so that such material enters or is likely to enter a waterbody, groundwater, or a public sewer and drainage system.

G. “Discharge Point” means the connection point to a public sewer or drainage system or destination for a discharge leaving a site.

H. “Discharge Rate” means the rate of flow expressed in cubic feet per second (cfs).

I. "Drainageway" means an open linear depression, whether constructed or natural, which functions for the collection and drainage of surface water. It may be permanently or temporarily inundated.

J. “Green Street” means a vegetated stormwater management facility located within the planting strip or other portion of public or private rights-of-way.

K. “Groundwater” means subsurface water that occurs in soils and geological formations that are fully saturated. Groundwater fluctuates seasonally and includes perched groundwater. Groundwater related discharges include, but are not limited to, subsurface water from site remediation and investigations, well development, Brownfield development, discharges from footing and foundation drains, rainwater infiltration into excavations and subsurface water associated with construction or property management dewatering activities.

L. "Impervious Surface" means any surface that has a runoff coefficient greater than 0.8 (as defined in the City’s Sewer and Drainage Facilities Design Manual). Types of impervious surfaces include rooftops, traditional asphalt and concrete parking lots, driveways, roads, sidewalks and pedestrian plazas. Slatted decks and gravel surfaces are considered pervious unless they cover impervious surfaces or gravels are compacted to a degree that causes their runoff coefficient to exceed 0.8.

M. “Infiltration” means the percolation of water into the ground. Infiltration is often expressed as a rate (inches per hour) which is determined through an infiltration test.

N. "Pollutants of Concern" means parameters identified by DEQ or BES as having the potential to have a

negative impact on the receiving system, including surface waters, ground water, the wastewater collection system and/or the wastewater treatment plant. Pollutants of concern can include suspended solids, heavy metals, nutrients, bacteria and viruses, organics, volatiles, semi-volatiles, floatable debris and increased temperature.

O. "Practicable" means available and capable of being done as determined by the Director, after taking into consideration cost, resources, existing technology, and logistics in light of overall project purpose.

P. "Public Right-of-Way" means the area within the confines of a dedicated public street, an easement owned by the City, or other area dedicated for public use for streets or public utilities.

Q. "Redevelopment" means any development that requires demolition or complete removal of existing structures or impervious surfaces at a site and replacement with new impervious surfaces. Maintenance activities such as top-layer grinding, re-paving (where the entire pavement is not removed) and re-roofing are not considered redevelopment. Interior remodeling projects and tenant improvements are also not considered to be redevelopment. Utility trenches in streets are not considered to be redevelopment unless more than 50 percent of the street width is removed and re-paved.

R. "Site Map" means a map showing the stormwater management facility location in relation to buildings, structures or permanent survey monuments on the site. A site map shall depict location of sources of runoff entering the stormwater management facility and the discharge point and type of receiving system for discharge leaving the facility.

S. "Stormwater" means water that originates as precipitation on a particular site, basin, or watershed. Also referred to as runoff.

T. "Stormwater Management" means the overall culmination of techniques used to reduce pollutants from, detain, retain, or provide a discharge point for stormwater to best preserve or mimic the natural hydrologic cycle, to accomplish goals of reducing combined sewer overflows or basement sewer backups, or to fit within the capacity of the existing infrastructure.

U. "Stormwater Management Facility" means a facility or other technique used to reduce volume, flow rate or pollutants from stormwater runoff. Stormwater facilities may reuse, collect, convey, detain, retain, or provide a discharge point for stormwater runoff.

V. "Temporary Structure" means a structure that is separate and distinct from all other structures and is created and removed in its entirety within three years, including all impervious area associated with the structure.

W. "Tract" means a parcel of land designated as part of a land division per Title 33 that is not a lot, lot of record, or a public right-of-way .

X. "Wetland" means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs, and similar areas except those constructed as pollution reduction or flow control facilities.

17.38.025 Rule Making

(Repealed by Ordinance No. 185397, effective July 6, 2012.)

17.38.030 Protection of Drainageway Areas.

(Added by Ordinance No. 176561; amended by Ordinance Nos. 176783, 182144 and 185397, effective July 6, 2012.)

A. Authority. The Director may require drainage reserves or tracts over seeps, springs and drainageways as necessary to preserve the functioning of these areas and to limit flooding impacts from natural and man made channels, ditches, seeps, spring, intermittent flow channels and other open linear depressions. Standards and criteria for imposing drainage reserves or tract requirements shall be adopted by administrative rule. Placement and/or sizing of drainage reserves does not relieve property owners of their responsibility to manage stormwater in a manner that complies with the duties of property owners under applicable law. Drainage reserve or tract requirements may be imposed during land use reviews, building permit review or other development process that require Bureau of Environmental Services (BES) review.

B. Required Management of the Drainage Reserve. Storm drainage reserves or tracts shall remain in natural topographic condition. No private structures, culverts, excavations, or fills shall be constructed within drainage reserves or tracts unless authorized by the BES Chief Engineer by administrative rules found in the Stormwater Management Manual. All changes must also comply with other zoning regulations as described in Title 33. Encroachment agreements can be made between the property owner and the City.

C. Implementation. BES has authority to identify and implement protections for drainageways during multiple development review processes, including land use reviews and building permit reviews. The early identification efforts will consider the ability of developers to design around drainage reserve areas.

17.38.035 Drainage Management Policies and Standards.

(Amended by Ordinance Nos. 174745, 176561, 176783, 176955, 180037, 182144 and 185397, effective July 6, 2012.)

A. Stormwater shall be managed in as close proximity to the development site as is practicable, and stormwater management shall avoid a net negative impact on nearby streams, wetlands, groundwater, and other water bodies. All local, state, and federal permit requirements related to implementation of stormwater management facilities must be met by the owner/operator prior to facility use. Surface water discharges from onsite facilities shall be discharged to an approved drainage facility.

1. The City may initiate individual agreements with property owners to manage stormwater flows through alternative methods to onsite controls:

a. In joint facilities where public and private property flows co-mingle.

b. In offsite areas that are “traded” for required onsite management areas related to new and redevelopment. The City may require more than a 1:1 exchange on the amount of required management area.

2. All discharges must be routed to a discharge point approved by the Director. Approval of discharge points must meet the following standards:

a. The discharge must be conveyed along a route of service approved by the Director.

b. The discharge point must comply with the following standards and specifications:

(1) Sanitary, wastewater or other discharges to the sanitary or combined system must comply with the Sewer and Drainage Facilities Design Manual.

(2) Stormwater or other discharges to the City's storm and drainage system must comply with the Stormwater Management Manual.

B. The quality of stormwater leaving the site after development shall be equal to or better than the quality of stormwater leaving the site before development, as much as is practicable, based on the following criteria:

1. Stormwater management facilities required for development shall be designed, installed and maintained in accordance with the Stormwater Management Manual, which is based on achieving at least 70% removal of the Total Suspended Solids (TSS) from the flow entering the facility for the design storm specified in the Stormwater Management Manual.

2. Land use activities of particular concern as pollution sources shall be required to implement additional pollution controls including but not limited to, those management practices specified in the Stormwater Management Manual.

3. Development in a watershed that drains to streams with established Total Maximum Daily Load limitations, as provided under the Federal Clean Water Act, Oregon Law, Administrative Rules and other legal mechanisms shall assure that stormwater management facilities meet the requirements for pollutants of concern, as stated in the Stormwater Management Manual.

4. Stormwater discharge which is not practicable to fully treat to the standards of this Section and the Stormwater Management Manual, shall be either:

a. Managed in an offsite facility or

b. Given the option of paying a stormwater offsite management fee. The Bureau will employ a methodology for calculating the fee that is based upon an average unit cost of onsite facilities where such facilities would be effective and establish the calculation method and fee by rule. The stormwater offsite management fee collected shall be placed in a mitigation account to be used to mitigate the impacts that arise from offsite discharge of stormwater runoff.

5. Notwithstanding Subsection 17.38.035 B.4., for any parcel created after the effective date of this Chapter, the development shall fully treat all stormwater:

a. Onsite, or

b. Within the original parcel from which the new parcel was created, or

c. In a privately developed offsite facility with sufficient capacity, as determined by the Bureau.

6. The Director is authorized to exempt land uses, discharge locations or other areas of the city from the requirements of this Subsection if onsite pollution reduction or pollution control is not needed or desirable due to limited pollutant loads or offsite methods of pollution control are available. All exemptions are specified in the Stormwater Management Manual.

C. The quantity and flow rate of stormwater leaving the site after development shall be equal to or less than the quantity and flow rate of stormwater leaving the site before development, as much as is practicable, based on the following criteria:

1. Development shall mitigate all project impervious surfaces through retention and on-site infiltration to the maximum extent practicable. Where on-site retention is not possible, development shall detain stormwater through a combination of provisions that prevent an increased rate of flow leaving a site during a range of storm frequencies as specified in the Stormwater Management Manual.

2. The Director is authorized to exempt areas of the city from the quantity control requirements if flow control is not needed or desirable because there is sufficient capacity and limited impacts to the receiving drainage system. All exemptions shall be specified in the Stormwater Management Manual.

3. Any development that discharges to a tributary of the Willamette River, other than the Columbia Slough, shall design stormwater management facilities such that the rate of flow discharging from such facilities for up to a two-year design storm event does not lengthen the period of time the tributary channel receiving the discharge sustains erosion causing flows, as determined by the Bureau.

4. Site drainage facilities shall be designed to safely convey the less frequent, higher flows through or around stormwater management facilities and to an approved drainage system with adequate capacity without damage to the receiving drainage system, whether natural or manmade.

5. Stormwater discharge which cannot be practicably managed for quantity or flow rate control as defined in this Subsection and the Stormwater Management Manual shall either be:
 - a. Managed in an offsite facility designed for the pollutant load, volume and rate of flows from subject property and managed by the site developer/site owner or another legal agent, or

 - b. Managed in an offsite stormwater management facility operated by the City subject to paying a stormwater offsite management fee. The Bureau will employ a methodology for calculating the fee that is based upon an average unit cost of onsite facilities where such facilities would be effective and establish the calculation method and fee by rule. The stormwater offsite management fee collected will be placed in a mitigation account to be used to mitigate the impacts that arise from offsite discharge of stormwater runoff.

6. Notwithstanding Subsection 17.38.035 C.5., for any parcel created after the effective date of this Chapter, stormwater shall be fully managed:
 - a. Onsite, or

 - b. Within the original parcel from which the new parcel was created, or

 - c. In a privately developed offsite facility with sufficient capacity, as determined by the Bureau.

- D.** The Director is authorized to establish requirements for the pumping and discharge of groundwater as a waste (discharge to waste). The Stormwater Management Manual regulations govern both quality and quantity impacts of pumping and discharging groundwater to City receiving systems. The regulations may exempt, establish discharges as de minimus, or provide for and limit the permanent or temporary discharge of groundwater. Temporary groundwater discharges may be authorized through the batch discharge processes

described in Title 17.34 and 17.39. In establishing rules to regulate the pumping and discharge of groundwater as a waste, the Director shall, at a minimum, incorporate and implement the following standards.

1. Authorizations for discharge. Unless the Director's rules establish exceptions or determines discharges are de minimus, any pumping and discharge to waste of groundwater may proceed only after a groundwater specific discharge authorization by the Director. This authorization shall establish volume, flow rate and pollutant load limits for the discharge.

2. Limiting flow volume and flow rate. Pumping and discharge of groundwater as a waste will only be allowed where the proposed discharger has first reduced the rate and volume of groundwater requiring discharge to a City system to the greatest extent practical. Examples include:

a. Limiting the pumping and discharge of groundwater to rates not exceeding those rates that would be required for a building designed and engineered to minimize ground water intrusion and necessary ground water pumping; and

b. Requiring management techniques implemented by the property developer and operator to assure continued effective use of structures in the presence of groundwater infiltration; and

c. When there is sufficient capacity in the City receiving system. Capacity shall be defined by rule and will consider providing capacity for other and future anticipated and primary uses of the systems.

3. Onsite management a priority. Pumped ground water shall be managed first by onsite methods, such as infiltration, to the greatest extent practical. Thereafter private conveyance facilities shall discharge through infiltration offsite or to surface water bodies. Offsite discharge to City systems shall be approved only after onsite alternatives are evaluated.

4. Prohibited discharges. Offsite discharges meeting the following criteria are prohibited:

a. Discharge to City-owned underground injection controls (UICs).

b. Discharges meeting the tests for prohibited discharges in Chapters 17.34 and 17.39.

Notwithstanding this limitation, the City may allow discharge of contaminated ground water that has been treated to meet standards set by the Director to insure that any groundwater discharges do not cause or threaten to cause a public nuisance, groundwater or surface water pollution, cause or threaten to cause the City to violate its own discharge permits granted by the Department of Environmental Quality.

(1) The Director may establish rules to limit or prevent the pumping and discharge of contaminated groundwater and may require one-time or on-going testing or monitoring of water quality by the applicant for discharge authorization approval.

E. All conveyance systems shall be analyzed, designed and constructed for existing tributary offsite runoff and developed onsite runoff from the proposed project in compliance with the City's Sewer and Drainage Facilities Design Manual. The general goal of these standards is to convey both onsite and offsite waters in a way that meets the capacity needs of the City conveyance system, is protective of public health and safety, and that minimizes environmental impacts in the downstream receiving system. The Director reserves the right to determine the appropriateness of combination facilities in meeting these standards.

F. All discharge systems shall comply with the standards set forth in the Stormwater Management Manual. Public systems shall be reviewed and approved by BES in compliance with the sizing and location standards in the Stormwater Management Manual. Private onsite systems shall comply with the stormwater hierarchy and other guidance specified in the Stormwater Management Manual, and shall be reviewed by Bureau of Development Services for compliance with the plumbing code regulations in Section 25.01.020.

17.38.040 Stormwater Mangement Facilities Required.

(Amended by Ordinance Nos. 174745, 176783, 180037, 182144, 183397 and 185397, effective July 6, 2012.) No plat, site plan, building permit or public works project shall be approved unless the conditions of the plat, permit or plan approval requires installation of permanent stormwater management facilities designed according to standards or guidelines established by the Director and as specified in the Stormwater Management Manual.

A. Applicability. All development and redevelopment sites with the following triggers must comply with the standards of the Stormwater Management Manual:

1. Creation of any new impervious area. Sites with 500 square feet or more of impervious area must be managed for pollution reduction, quantity or flow control requirements as spelled out in this Section; or

2. Modification to or construction of new areas with pollution generating activities of concern as identified in the Stormwater Management Manual. These areas must be constructed with applicable onsite controls; or

3. New connections or new drainage areas routed into the City's sewer or drainage system under a City permit. These connections most often are generated from decommissioning of private, onsite drainage or groundwater related systems.

4. Temporary structures are exempt from pollution reduction and flow control requirements, except for specific instances called out in the Stormwater Management Manual.

B. Exemptions. The requirements of this Chapter for stormwater management do not apply to:

1. Development for which an application for development approval is accepted by the permitting agency prior July 1, 1999 shall be subject to the requirements in place at the time of application.

2. Public or private development that does not result in impervious surface coverage or results in coverage that is de minimus in relation to discharge, such as fences, environmental enhancement projects, buried pipelines or cables, and utility lines.

3. Impervious surface created by a stormwater management facility such as but not limited to headwalls, manhole or vault covers. Paved or compacted gravel facility access and maintenance roads that extend beyond the facility itself, are not exempted from the management requirements of this Title.

C. Appeals. Any applicant for a permit or authorization aggrieved by a decision, interpretation, or determination made pursuant to this Chapter or rules adopted thereunder, including the Stormwater Management Manual, may appeal such action in accordance with appeals processes specified in the Stormwater Management Manual.

1. Provision for reasonable interpretation of the Stormwater Management Manual. The Director shall establish an internal BES Administrative Review Committee and a BES Appeals Board. The Chief Engineer of the Bureau of Environmental Services shall appoint outside members to the BES Appeals

Board.

2. Applicants shall file appeals in accordance with the appeals process procedures specified in the Stormwater Management Manual.

D. Maintenance of Stormwater and Groundwater Management Facilities.

1. All applicants for new development, redevelopment, plats, site plans, building permits or public works projects, as a condition of approval, shall be required to submit an operation and maintenance plan and the required plan cover sheet for the required stormwater management facilities for review and approval by the Director, unless otherwise exempted in the Stormwater Management Manual. A stormwater management facility that receives stormwater runoff from a public right-of-way shall be a public facility, and maintained by the City, unless the right-of-way is not part of the City road maintenance system.

a. The information required in an operation and maintenance plan shall satisfy the requirements in the Stormwater Management Manual. Applicants are required to submit the O & M recording form with the plan and are encouraged to use the O & M Plan template provided in the Stormwater Management Manual. The Plan shall include and not be limited to:

- (1) Design plans of the specific facility and related parts, including design assumptions; and
- (2) A schedule for routine inspection, including post storm related inspections; and
- (3) A description of the various facility components, the observable trigger for maintenance, and the method of maintenance, including appropriate method of disposal of materials; and
- (4) The intended method of providing financing to cover future operations and maintenance; and
- (5) The party or parties responsible for maintenance of the facility including means of effecting contact, including contact means for emergency situations. The party may be an individual or an organization.

b. A maintenance log is required. The log shall provide a record of all site maintenance related activities. The log shall include the time and dates of facility inspections and specific maintenance activities. This log shall be available to City inspection staff upon request.

2. Failure to properly operate or maintain the water quality or quantity control facility according to the operation and maintenance plan may result in an enforcement action, including a civil penalty, as specified in Section 17.38.045, Enforcement.

a. Property owners adjacent to green street shall not be responsible for routine maintenance of the stormwater management facilities. Property owners shall notify BES prior to making a utility connection across the facility. Owners are encouraged to contact the Director if they feel a City crew facility maintenance visit is warranted. Property owners are encouraged to perform the following tasks with BES approval:

(1) Trash and debris removal (not including sediment)

(2) Weed removal

(3) Leaf pick up and removal

(4) Removal of dead plantings

(5) Watering of vegetation

(6) Clearing inlets and outlets to allow stormwater to freely enter and exit the facility

b. Adjacent owners wishing to modify facility plantings or encroach on facility structures must obtain authorization from the Director before commencing work.

(1) Plant scheme modifications. Alternative plant lists and/or planting plans will be required to modify facility plant schemes. Written approval of plant modification plans must be obtained from the manager of the BES Revegetation program before green street facility plantings may be modified.

(2) Structural modifications. Encroachments into public easements or public facility areas must obtain a permitted as required in Chapter 17.32 and the associated public works permit administrative rules.

3. A copy of the operation and maintenance plan shall be filed with the Bureau of Environmental Services. Staff may require a site map to be recorded and filed with the appropriate county Department of Assessment and Taxation.

E. The Director may file instruments in county deed records to inform future property owners of regulations and conditions of approval related to the property as provided in this Chapter and associated rules, including the Stormwater Management Manual.

17.38.041 Parking Lot Stormwater Requirements.

(Added by Ordinance No. 174745; amended by Ordinance No. 180037, effective April 28, 2006.) Stormwater runoff from parking lots must be managed in parking lot interior or perimeter landscaping to the extent required by the Stormwater Management Manual. The Director is authorized to exempt activities, land uses, or identified sites from these requirements if use of parking landscape areas is not needed or desirable because of non-conforming or existing landscape areas. All exemptions are described in the Stormwater Management Manual.

17.38.043 Inspections.

(Added by Ordinance No. 185397, effective July 6, 2012.) Authorized City representatives may inspect stormwater or groundwater management facilities to determine compliance with this Chapter. The facility owner shall allow and provide for free access for representatives of the Bureau of Environmental Services to enter upon the premises where the facility is located for the purpose of inspection or assuring compliance with this Chapter and the Stormwater Management Manual.

A. Conditions for entry.

1. The authorized City representative shall present appropriate credentials at the time of entry.

2. The purpose of the entry shall be for inspection to ensure compliance of the onsite stormwater management facilities with this Chapter and the Stormwater Management Manual of the onsite stormwater management facilities.

3. Entry shall be made at reasonable times during normal operating or business hours unless an emergency situation exists as determined by the Director.

17.38.045 Enforcement.

(Amended by Ordinance Nos. 180037, 182144 and 185397, effective July 6, 2012.)

A. Enforcement. Persons who fail to comply with the provisions of this chapter and the BES Stormwater Discharge Enforcement Rules adopted hereunder may be subject to enforcement actions by the Director.

B. Violations. A violation shall have occurred when:

1. Any requirement of this Chapter or rules adopted hereunder has not been met; or

2. When a written request of the Director, made under authority of this Chapter, is not met within the specified time; or

3. When any condition of an operations and maintenance plan or agreement issued under the authority of this Chapter or rules is not met within a specified time; or

4. When the facility through maintenance neglect or facility failure no longer operates as designed, or

5. When the facility fails to have a properly recorded or inaccurate O & M plan on file with BES.

C. Remedies. Enforcement Mechanisms. If BES determines that a violation has occurred or is likely to occur, BES may offer technical assistance and education to the responsible party to prevent or correct the violation. In enforcing any of the requirements of this Chapter or rules adopted hereunder, the Director, or a duly authorized representative, may employ any of the following enforcement methods:

1. Take civil administrative actions, as set out in rules adopted under the authority of this chapter;
2. Issue compliance orders;
3. Institute an action before the Code Hearings Officer
4. Cause an appropriate action to be instituted in a court of competent jurisdiction; or
5. Take such other action as the Director, in the exercise of his or her discretion, deems appropriate.

D. Penalties. Violations of this chapter or rules adopted hereunder may result in assessment of civil penalties in an amount up to \$500 per day per violation.

1. Collection of penalties and costs. All civil penalties shall be deposited with the City Treasurer and credited to the Sewage Disposal Fund. Penalties and costs are payable upon receipt of the final order imposing penalties and costs. Penalties and costs under this chapter are a debt owing to the City and may be collected in the same manner as any other debt. Penalties shall accrue interest and any other applicable charges until the penalty is paid in full. The City may initiate appropriate legal action in any court of competent jurisdiction to enforce the provisions of any written settlement or final order of the Hearings Officer.

E. Appeals. Appeal of an enforcement action. Upon receipt of a final determination of an enforcement action, a person may appeal the determination to the Code Hearings Officer in accordance with the procedures set out at Chapter 22.10 of the Portland City Code provided that such appeal shall include a copy of the final determination that is the subject of the appeal, shall state the basis for the appeal, and shall be filed with the Code Hearings Officer and the Bureau of Environmental Services.

F. Nuisance. A violation of this Chapter shall constitute a nuisance. Summary abatement of such nuisances is authorized.

G. Cost recovery. The Director may recover all reasonable costs incurred by the City which are attributable to or associated with the violations of this Chapter, including but not limited to the costs of administration, investigations, legal or enforcement activities, damages to or contamination of the sewer and stormwater systems; and any civil penalties assessed on the City which result from activities not in compliance with this chapter or rules adopted hereunder. The Director may also make a lien on the property or properties in accordance with the provisions of Chapter 22.06.

H. Conflict. All other ordinances and parts of other ordinances inconsistent or conflicting with any part of this Ordinance are hereby repealed to extent of such inconsistency or conflict.

I. Severability. If any provision, paragraph, word, Section or Chapter of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, Sections and Chapters shall not be affected and shall continue in full force and effect.

17.38.050 Erosion Control Required.

(Amended by Ordinance No. 173979, effective March 1, 2000.) All public works projects constructed within the City of Portland must comply with Title 10, Erosion and Sediment Control Regulations.

17.38.055 River Restoration Program.

(Replaced by Ordinance No. 185397, effective July 6, 2012.) BES and the Office of Healthy Working Rivers are authorized to develop administrative rules for implementation of a River Restoration Program including, but not limited to, a mitigation bank and in-lieu fee program for implementation of the Title 33 River Plan/North Reach Code provisions. BES and the Office of Healthy Working Rivers may also accept funds from in-lieu fees, mitigation bank credits, donations, program administrative fees, and other sources and may expend such funds for environmental restoration, enhancement and improvement activities.

17.38.060 Fill Mitigation In-lieu of Balanced Cut and Fill – the Johnson Creek Fill Mitigation Bank.
(Repealed by Ordinance No. 182144, effective September 26, 2008.)

Figure 9 (Section 17.38.060)

(Repealed by Ordinance No. 182144, effective September 26, 2008.)

Figure 10 (Section 17.38.060)

(Repealed by Ordinance No. 182144, effective September 26, 2008.)

-note

(Chapter replaced by Ordinance No. 173330, effective June 4, 1999.)

Seattle, WA

Chapter 22.805 - MINIMUM REQUIREMENTS FOR ALL PROJECTS

Sections:

[22.805.010 - General](#)

[22.805.020 - Minimum Requirements for All Projects](#)

[22.805.030 - Minimum Requirements for Single-Family Residential Projects](#)

[22.805.040 - Minimum Requirements for Trail and Sidewalk Projects](#)

[22.805.050 - Minimum Requirements for Parcel-Based Projects](#)

[22.805.060 - Minimum Requirements for Roadway Projects](#)

[22.805.070 - Minimum Requirements for Joint Parcel-Based and Roadway Projects](#)

[22.805.080 - Minimum Requirements for Flow Control](#)

[22.805.090 - Minimum Requirements for Treatment](#)

22.805.010 - General

A. All projects are required to comply with this chapter, even where drainage control review is not required.

B. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

C. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.805.020 - Minimum Requirements for All Projects

A. Minimum Requirements for Maintaining Natural Drainage Patterns. For all projects, natural drainage patterns shall be maintained and discharges shall occur at the natural location to the maximum extent feasible and consistent with subsection 22.805.020.B. Drainage water discharged from the site shall not cause a significant adverse impact to receiving waters or down-gradient properties. Drainage water retained on the site shall not cause significant adverse impact to up-gradient properties.

B. Minimum Requirements for Discharge Point. The discharge point for drainage water from each site shall be selected using criteria that shall include, but not be limited to, preservation of natural drainage patterns and whether the capacity of the drainage system is adequate for the flow rate and volume. For those projects meeting the drainage review threshold, the proposed discharge point shall

be identified in the drainage control plan required by this subtitle, for review and approval or disapproval by the Director.

C. **Minimum Requirements for Flood-prone Areas.** On sites within flood prone areas, responsible parties are required to employ procedures to minimize the potential for flooding on the site and to minimize the potential for the project to increase the risk of floods on adjacent or nearby properties. Flood control measures shall include those set forth in other titles of the Seattle Municipal Code and rules promulgated thereunder, including, but not limited to, Chapter 23.60 (Shoreline Master Program), Chapter 25.06 (Floodplain Development) and Chapter 25.09 (Environmentally Critical Areas) of the Seattle Municipal Code.

D. **Minimum Requirements for Construction Site Stormwater Pollution Prevention Control.** Temporary and permanent construction controls shall be used to accomplish the following minimum requirements. All projects are required to meet each of the elements below or document why an element is not applicable. Additional controls may be required by the Director when minimum controls are not sufficient to prevent erosion or transport of sediment or other pollutants from the site.

1. **Mark Clearing Limits and Environmentally Critical Areas.** Within the boundaries of the project site and prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits, easements, setbacks, all environmentally critical areas and their buffers, and all trees, and drainage courses that are to be preserved within the construction area.

2. **Retain Top Layer.** Within the boundaries of the project site, the duff layer, topsoil, and native vegetation, if there is any, shall be retained in an undisturbed state to the maximum extent feasible. If it is not feasible to retain the top layer in place, it should be stockpiled on-site, covered to prevent erosion, and replaced immediately upon completion of the ground disturbing activities to the maximum extent feasible.

3. **Establish Construction Access.** Limit construction vehicle access, whenever possible, to one route. Stabilize access points and minimize tracking sediment onto public roads. Promptly remove any sediment tracked off site.

4. **Protect Downstream Properties and Receiving Waters.** Protect properties and receiving waters downstream from the development sites from erosion due to increases in the volume, velocity, and peak flow rate of drainage water from the project site. If it is necessary to construct flow control facilities to meet this requirement, these facilities shall be functioning prior to implementation of other land disturbing activity. If permanent infiltration ponds are used to control flows during construction, these facilities shall be protected from siltation during the construction phase of the project.

5. **Prevent Erosion and Sediment Transport from the Site.** Pass all drainage water from disturbed areas through a sediment trap, sediment pond, or other appropriate sediment removal BMP before leaving the site or prior to discharge to an infiltration facility. Sediment controls intended to trap sediment on site shall be constructed as one of the first steps in grading and shall be functional before other land disturbing activities take place. BMPs intended to trap sedimentation shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

6. **Prevent Erosion and Sediment Transport from the Site by Vehicles.** Whenever construction vehicle access routes intersect paved roads, the transport of sediment onto the paved road shall be minimized. If sediment is transported onto a paved road surface, the roads shall be cleaned

thoroughly at the end of each day. Sediment shall be removed from paved roads by shoveling or sweeping and shall be transported to a controlled sediment disposal area. If sediment is tracked off site, roads shall be cleaned thoroughly at the end of each day, or at least twice daily during wet weather. Street washing is allowed only after sediment is removed and street wash wastewater shall be prevented from entering the public drainage system and receiving waters.

7. Stabilize Soils. Prevent on-site erosion by stabilizing all exposed and unworked soils, including stock piles and earthen structures such as dams, dikes, and diversions. From October 1 to April 30, no soils shall remain exposed and unworked for more than two days. From May 1 to September 30, no soils shall remain exposed for more than seven days. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast. Soil stockpiles shall be stabilized from erosion, protected with sediment trapping measures, and be located away from storm drain inlets, waterways, and drainage channels. Before the completion of the project, permanently stabilize all exposed soils that have been disturbed during construction.

8. Protect Slopes. Erosion from slopes shall be minimized. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Off-site stormwater run-on or groundwater shall be diverted away from slopes and undisturbed areas with interceptor dikes, pipes, and/or swales. Pipe slope drains or protected channels shall be constructed at the top of slopes to collect drainage and prevent erosion. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations. Check dams shall be placed at regular intervals within constructed channels that are cut down a slope.

9. Protect Storm Drains. Prevent sediment from entering all storm drains, including ditches that receive drainage water from the project. Storm drain inlet protection devices shall be cleaned or removed and replaced as recommended by the product manufacturer, or more frequently if required to prevent failure of the device or flooding. Storm drain inlets made operable during construction shall be protected so that drainage water does not enter the drainage system without first being filtered or treated to remove sediments. Storm drain inlet protection devices shall be removed at the conclusion of the project. When manufactured storm drain inlet protection devices are not feasible, inlets and catch basins must be cleaned as necessary to prevent sediment from entering the drainage control system.

10. Stabilize Channels and Outlets. All temporary on-site drainage systems shall be designed, constructed, and stabilized to prevent erosion. Stabilization shall be provided at the outlets of all drainage systems that is adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches.

11. Control Pollutants. Measures shall be taken to control potential pollutants that include, but are not limited to, the following measures:

- a. All pollutants, including sediment, waste materials, and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of drainage water and per all applicable disposal laws.
- b. Containment, cover, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.
- c. On-site fueling tanks shall include secondary containment.

- d. Maintenance, fueling, and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into drainage water runoff shall be conducted using spill prevention and control measures.
 - e. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.
 - f. Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system or to the sanitary sewer or combined sewer system with approval of the Director of SPU. Temporary discharges or connections to the public sanitary and combined sewers shall be made in accordance with Chapter 21.16 (Side Sewer Code).
 - g. Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to drainage water. Manufacturers' label requirements for application rates and procedures shall be followed.
 - h. BMPs shall be used to prevent or treat contamination of drainage water by pH-modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Construction site operators may be required to adjust the pH of drainage water if necessary to prevent a violation of water quality standards. Construction site operators must obtain written approval from Ecology prior to using chemical treatment other than carbon dioxide (CO₂) or dry ice to adjust pH.
12. Control Dewatering. When dewatering devices discharge on site or to a public drainage system, dewatering devices shall discharge into a sediment trap, sediment pond, gently sloping vegetated area of sufficient length to remove sediment contamination, or other sediment removal BMP. Foundation, vault, and trench dewatering waters must be discharged into a controlled drainage system prior to discharge to a sediment trap or sediment pond. Clean, non-turbid dewatering water, such as well-point ground water, that is discharged to systems tributary to state surface waters must not cause erosion or flooding. Highly turbid or contaminated dewatering water shall be handled separately from drainage water. For any project with an excavation depth of 12 feet or more below the existing grade and for all large projects, dewatering flows must be determined and it must be verified that there is sufficient capacity in the public drainage system and public combined sewer prior to discharging.
13. Maintain BMPs. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. All temporary erosion and sediment controls shall be removed within five days after final site stabilization is achieved or after the temporary controls are no longer needed, whichever is later. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.
14. Inspect BMPs. BMPs shall be periodically inspected. For projects with 5,000 square feet or more of new plus replaced impervious surface or 7,000 square feet or more of land disturbing activity, site inspections shall be conducted by a Certified Erosion and Sediment Control Lead who shall be identified in the Construction Stormwater Control Plan and shall be present on-site or

on-call at all times.

15. Execute Construction Stormwater Control Plan. Construction site operators shall maintain, update, and implement their Construction Stormwater Control Plan. Construction site operators shall modify their Construction Stormwater Control Plan to maintain compliance whenever there is a change in design, construction, operation, or maintenance at the site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

16. Minimize Open Trenches. In the construction of underground utility lines, where feasible, no more than 150 feet of trench shall be opened at one time, unless soil is replaced within the same working day, and where consistent with safety and space considerations, excavated material shall be placed on the uphill side of trenches. Trench dewatering devices shall discharge into a sediment trap or sediment pond.

17. Phase the Project. Development projects shall be phased to the maximum extent feasible in order to minimize the amount of land disturbing activity occurring at the same time and shall take into account seasonal work limitations.

18. Install Permanent Flow Control and Water Quality Facilities. Development projects required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment) shall install permanent flow control and water quality facilities.

E. Minimum Requirement to Amend Soils. Prior to completion of the project all new, replaced, and disturbed topsoil shall be amended with organic matter per rules promulgated by the Director to improve onsite management of drainage water flow and water quality.

F. Implement Green Stormwater Infrastructure. All Single-family residential projects and all other projects with 7,000 square feet or more of land disturbing activity or 2,000 square feet or more of new plus replaced impervious surface must implement green stormwater infrastructure to infiltrate, disperse, and retain drainage water onsite to the maximum extent feasible without causing flooding, landslide, or erosion impacts.

G. Protect Wetlands. All projects discharging into a wetland or its buffer, either directly or indirectly through a drainage system, shall prevent impacts to wetlands that would result in a net loss of functions or values.

H. Protect Streams and Creeks. All projects, including projects discharging directly to a stream or creek, or to a drainage system that discharges to a stream or creek, shall maintain the water quality in any affected stream or creek by selecting, designing, installing, and maintaining temporary and permanent controls.

I. Protect Shorelines. All projects discharging directly or indirectly through a drainage system into the shoreline district as defined in Chapter 23.60 shall prevent impacts to water quality and stormwater quantity that would result in a net loss of shoreline ecological functions as defined in WAC 173-26-020 (11).

J. Ensure Sufficient Capacity. All large projects, all projects with an excavation depth of 12 feet or more below the existing grade, and all projects with an excavation depth of less than 12 feet located in an area expected to have shallow groundwater depths shall ensure that sufficient capacity exists in the public drainage system and public combined sewer to carry existing and anticipated loads, including

any flows from dewatering activities. Capacity analysis shall extend to at least ¼-mile from the discharge point of the site. Sites at which there is insufficient capacity may be required to install a flow control facility or improve the drainage system or public combined sewer to accommodate flow from the site. Unless approved otherwise by the Director as necessary to meet the purposes of this subtitle:

1. Capacity analysis for discharges to the public drainage system shall be based on peak flows with a 4% annual probability (25-year recurrence interval); and
2. Capacity analysis for discharges to the public combined sewer shall be based on peak flows with a 20% annual probability (5-year recurrence interval).

K. Install Source Control BMPs. Source control BMPs shall be installed for specific pollution-generating activities as specified in the joint SPU/DPD Directors' Rule, "Source Control Technical Requirements Manual," to the extent necessary to prevent prohibited discharges as described in Section 22.802.020, and to prevent contaminants from coming in contact with drainage water. This requirement applies to the pollution-generating activities that are stationary or occur in one primary location and to the portion of the site being developed. Examples of installed source controls include, but are not limited to, the following:

1. A roof, awning, or cover erected over the pollution-generating activity area;
2. Ground surface treatment in the pollution-generating activity area to prevent interaction with, or breakdown of, materials used in conjunction with the pollution-generating activity;
3. Containment of drainage from the pollution-generating activity to a closed sump or tank. Contents of such a sump or tank must be pumped or hauled by a waste handler, or treated prior to discharge to a public drainage system.
4. Construct a berm or dike to enclose or contain the pollution-generating activities;
5. Direct drainage from containment area of pollution-generating activity to a closed sump or tank for settling and appropriate disposal, or treat prior to discharging to a public drainage system;
6. Pave, treat, or cover the containment area of pollution-generating activities with materials that will not interact with or break down in the presence of other materials used in conjunction with the pollution-generating activity; and
7. Prevent precipitation from flowing or being blown onto containment areas of pollution-generating activities.

L. Do not obstruct watercourses. Watercourses shall not be obstructed.

M. Comply with Side Sewer Code.

1. All privately owned and operated drainage control facilities or systems, whether or not they discharge to a public drainage system, shall be considered side sewers and subject to Chapter 21.16 (Side Sewer Code), SPU Director's Rules promulgated under Title 21, and the design and installation specifications and permit requirements of SPU and DPD for side sewer and drainage systems.
2. Side sewer permits and inspections shall be required for constructing, capping, altering, or repairing privately owned and operated drainage systems as provided for in Chapter 21.16. When

the work is ready for inspection, the permittee shall notify the Director of DPD. If the work is not constructed according to the plans approved under this subtitle, Chapter 21.16, the SPU Director's Rules promulgated under Title 21, and SPU and DPD design and installation specifications, then SPU, after consulting with DPD, may issue a stop work order under Chapter 22.808 and require modifications as provided for in this subtitle and Chapter 21.16

(Ord. 123105, § 3, 2009.)

22.805.030 - Minimum Requirements for Single-Family Residential Projects

All single-family residential projects shall implement green stormwater infrastructure to the maximum extent feasible.

(Ord. 123105, § 3, 2009.)

22.805.040 - Minimum Requirements for Trail and Sidewalk Projects

All trail and sidewalk projects with 2,000 square feet or more of new plus replaced impervious surface or 7,000 square feet or more of land disturbing activity shall implement green stormwater infrastructure to the maximum extent feasible.

(Ord. 123105, § 3, 2009.)

22.805.050 - Minimum Requirements for Parcel-Based Projects

A. Flow Control. Parcel-based projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.

1. Discharges to Wetlands. Parcel-based projects discharging into a wetland shall comply with subsection 22.805.080.B.1 (Wetland Protection Standard) if:

- a. The total new plus replaced impervious surface is 5,000 square feet or more; or
- b. The project converts $\frac{3}{4}$ -acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
- c. The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site.

2. Discharges to Listed Creek Basins. Parcel-based projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek shall:

- a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing impervious coverage is less than 35 percent and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped

areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or

4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.050.A.2.a do not apply and the total new plus replaced impervious surface is 2,000 square feet or more.

3. Discharges to Non-listed Creek Basins. Parcel-based projects discharging into a creek not listed in subsection 22.805.050.A.2 shall:

a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing land cover is forested and one or more of the following apply:

1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or

2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or

4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.050.A.3.a do not apply and the total new plus replaced impervious surface is 2,000 square feet or more.

4. Discharges to Small Lake Basins. Parcel-based projects discharging into Bitter Lake, Green Lake, or Haller Lake drainage basins shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 2,000 square feet or more.

5. Discharges to Public Combined Sewer. Parcel-based projects discharging into the public combined sewer shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.

6. Discharges to a Capacity-constrained System. In addition to applicable minimum requirements for flow control in subsection 22.805.050.A.1 through subsection 22.805.050.A.5, parcel-based projects discharging into a capacity-constrained system shall also comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 2,000 square feet or more.

B. Treatment. Parcel-based projects not discharging to the public combined sewer shall comply with the minimum requirements for treatment contained in Section 22.805.090, to the extent allowed by law, if:

1. The total new plus replaced pollution-generating impervious surface is 5,000 square feet or more; or
2. The total new plus replaced pollution-generating pervious surfaces is $\frac{3}{4}$ of an acre or more and from which there is a surface discharge in a natural or man-made conveyance system from the site.

(Ord. 123105, § 3, 2009.)

22.805.060 - Minimum Requirements for Roadway Projects

A. Flow Control. Roadway projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.

1. Discharges to Wetlands. Roadway projects discharging into a wetland shall comply with subsection 22.805.080.B.1 (Wetland Protection Standard) if:

- a. The total new plus replaced impervious surface is 5,000 square feet or more; or
- b. The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
- c. The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site.

2. Discharges to Listed Creek Basins. Roadway projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek shall:

- a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing impervious coverage is less than 35 percent and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or

- 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
- b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.060.A.2.a do not apply and the total new plus replaced impervious surface is 10,000 square feet or more.
3. Discharges to Non-listed Creek Basins. Roadway projects discharging into a creek not listed in subsection 22.805.060.A.2 shall:
- a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing land cover is forested and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
 - b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.060.A.3.a do not apply and the total new plus replaced impervious surface is 10,000 square feet or more.
4. Discharges to Small Lake Basins. Projects discharging into Bitter Lake, Green Lake, or Haller Lake drainage basins shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
5. Discharges to Public Combined Sewer. Roadway projects discharging into the public combined sewer shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
6. Discharges to a Capacity-constrained System. In addition to applicable minimum requirements for flow control in subsection 22.805.060.A.1 through subsection 22.805.060.A.5, roadway projects discharging into a capacity-constrained system shall also comply with

subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.

B. Treatment. Roadway projects not discharging to the public combined sewer shall comply with the minimum requirements for treatment contained in Section 22.805.090, to the extent allowed by law, if:

1. The total new plus replaced pollution-generating impervious surface is 5,000 square feet or more; or
2. The total new plus replaced pollution-generating pervious surfaces is three-quarters of an acre or more and from which there is a surface discharge in a natural or man-made conveyance system from the site.

(Ord. 123105, § 3, 2009.)

22.805.070 - Minimum Requirements for Joint Parcel-Based and Roadway Projects

The parcel-based portion of joint projects shall comply with the minimum requirements for parcel-based projects contained in Section 22.805.050. The roadway portion of joint projects shall comply with the minimum requirements roadway projects contained in Section 22.805.060. The boundary of the public right-of-way shall form the boundary between the parcel and roadway portions of the joint project for purposes of determining applicable thresholds.

(Ord. 123105, § 3, 2009.)

22.805.080 - Minimum Requirements for Flow Control

A. Applicability. The requirements of this subsection apply to the extent required in Section 22.805.050 to Section 22.805.070

B. Requirements. Flow control facilities shall be installed to the extent allowed by law and maintained per rules promulgated by the Director to receive flows from that portion of the site being developed. Post-development discharge determination must include flows from dewatering activities. All projects shall use green stormwater infrastructure to the maximum extent feasible to meet the minimum requirements. Flow control facilities that receive flows from less than that portion of the site being developed may be installed if the total new plus replaced impervious surface is less than 10,000 square feet, the project site uses only green stormwater infrastructure to meet the requirement, and the green stormwater infrastructure provides substantially equivalent environmental protection as facilities not using green stormwater infrastructure that receive flows from all of the portion of the site being developed.

1. Wetland Protection Standard. All projects discharging to wetlands or their buffers shall protect the hydrologic conditions, vegetative community, and substrate characteristics of the wetlands and their buffers to protect the functions and values of the affected wetlands. The introduction of sediment, heat and other pollutants and contaminants into wetlands shall be minimized through the selection, design, installation, and maintenance of temporary and permanent controls. Discharges shall maintain existing flows to the extent necessary to protect the functions and values of the wetlands. Prior to authorizing new discharges to a wetland, alternative discharge locations shall be evaluated and infiltration options outside the wetland shall be maximized unless doing so will adversely impact the functions and values of the affected wetlands. If one or more of the flow control requirements contained in 22.805.080.B.2 through

22.805.080.B.4 also apply to the project, an analysis shall be conducted to ensure that the functions and values of the affected wetland are protected before implementing these flow control requirements.

2. Pre-developed Forested Standard. The post-development discharge peak flow rates and flow durations must be matched to the pre-developed forested condition for the range of pre-developed discharge rates from 50% of the 2-year recurrence interval flow up to the 50-year recurrence interval flow.

3. Pre-developed Pasture Standard. The post-development discharge peak flow rates and flow durations must be matched to the pre-developed pasture condition for the range of pre-developed discharge rates from 50% of the 2-year recurrence interval flow up to the 2-year recurrence interval flow.

4. Peak Flow Control Standard. The post-development peak flow with a 4% annual probability (25-year recurrence flow) shall not exceed 0.4 cubic feet per second per acre. Additionally, the peak flow with a 50% annual probability (2-year recurrence flow) shall not exceed 0.15 cubic feet per second per acre.

C. Inspection and Maintenance Schedule. Temporary and permanent flow control facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities in continuous working order.

(Ord. 123105, § 3, 2009.)

22.805.090 - Minimum Requirements for Treatment.

A. Applicability. The requirements of this subsection apply to the extent required in Section 22.805.050 to Section 22.805.070

B. Requirements. Water quality treatment facilities shall be installed to the extent allowed by law and maintained per rules promulgated by the Director to treat flows from the pollution generating pervious and impervious surfaces on the site being developed. When stormwater flows from other areas, including non-pollution generating surfaces (e.g., roofs), dewatering activities, and offsite areas, cannot be separated or bypassed, treatment BMPs shall be designed for the entire area draining to the treatment facility. All projects shall use green stormwater infrastructure the maximum extent feasible to meet the minimum requirements.

1. Runoff Volume. Stormwater treatment facilities shall be designed based on the stormwater runoff volume from the contributing area or a peak flow rate as follows:

a. The daily runoff volume at or below which 91 percent of the total runoff volume for the simulation period occurs, as determined using an approved continuous model. It is calculated as follows:

1) Rank the daily runoff volumes from highest to lowest.

2) Sum all the daily volumes and multiply by 0.09.

3) Sequentially sum daily runoff volumes, starting with the highest value, until the total equals 9 percent of the total runoff volume. The last daily value added to the sum is defined as the water quality design volume.

b. Different design flow rates are required depending on whether a treatment facility will be located upstream or downstream of a detention facility:

1) For facilities located upstream of detention or when detention is not required, the design flow rate is the flow rate at or below which 91 percent of the total runoff volume for the simulation period is treated, as determined using an approved continuous runoff model.

2) For facilities located downstream of detention, the design flow rate is the release rate from the detention facility that has a 50 percent annual probability of occurring in any given year (2-year recurrence interval), as determined using an approved continuous runoff model.

c. Infiltration facilities designed for water quality treatment must infiltrate 91 percent of the total runoff volume as determined using an approved continuous runoff model. To prevent the onset of anaerobic conditions, an infiltration facility designed for water quality treatment purposes must be designed to drain the water quality design treatment volume (the 91st percentile, 24-hour volume) within 48 hours.

2. Basic Treatment. A basic treatment facility shall be required for all projects. The requirements of subsection 22.805.090 B3 (Oil Control Treatment), subsection 22.805.090 B4 (Phosphorus Treatment), subsection 22.805.090.B.5 (Enhanced Treatment) are in addition to this basic treatment requirement.

3. Oil Control Treatment. An oil control treatment facility shall be required for high-use sites, as defined in this subtitle.

4. Phosphorus Treatment. A phosphorus treatment facility shall be required for projects discharging into nutrient-critical receiving waters.

5. Enhanced Treatment. An enhanced treatment facility for reducing concentrations of dissolved metals shall be required for projects discharging to a fish-bearing stream or lake, and to waters or drainage systems that are tributary to fish-bearing streams, creeks, or lakes, if the project meets one of the following criteria:

a. For a parcel-based project, the total of new plus replaced pollution-generating impervious surface is 5,000 square feet or more, and the site is an industrial, commercial, or multi-family project.

b. For a roadway project, the project adds 5,000 square feet or more of pollution-generating impervious surface, and the site is either:

1) A fully controlled or a partially controlled limited access highway with Annual Average Daily Traffic counts of 15,000 or more; or

2) Any other road with an Annual Average Daily Traffic count of 7,500 or greater.

6. Discharges to Groundwater. Direct discharge of untreated drainage water from pollution-generating impervious surfaces to ground water is prohibited.

C. Inspection and Maintenance Schedule. Temporary and permanent treatment facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities to be

kept in continuous working order.

(Ord. 123105, § 3, 2009.)

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ARTICLE IV. - POST-CONSTRUCTION STORMWATER ^[49]

⁽⁴⁹⁾ **Editor's note**— Ord. No. 3764, §§ 1—8, adopted November 26, 2007, effective July 1, 2008, did not specify manner of inclusion; hence, inclusion as article IV is at the discretion of the editor. Obvious misspellings and punctuation errors have been corrected without notation. For stylistic purposes, a uniform system of headings, catchlines, capitalization, citation to state statutes, and expression of numbers in text has been used to conform to the Code of Ordinances. Additions made for clarity are indicated by brackets.

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DIVISION 1. - GENERAL PROVISIONS

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Sec. 18-101. - Title.

This article shall be officially known as the "Post-Construction Stormwater Ordinance." It is referred to herein as "this ordinance," "these regulations," [or "this article."]

(Ord. No. 3764, § 1(101), 11-26-2007)

Sec. 18-102. - Authority.

The City of Charlotte and City of Charlotte Extra Jurisdictional Territory, referred to herein as "city," is authorized to adopt this article pursuant to state law, including but not limited to Article 14, Section 5 of the Constitution of North Carolina; G.S. 143-214.7 and rules promulgated by the Environmental

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Management Commission thereunder; Session Law 2006-246 (Senate Bill 1566), G.S. 160A-174, 160A-185, 160A-372 and 160A-459.

(Ord. No. 3764, § 1(102), 11-26-2007)

Sec. 18-103. - Findings.

It is hereby determined that:

- (1) Development and redevelopment alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, soil erosion, stream channel erosion, non-point source pollution, and sediment transport and deposition, as well as reduce groundwater recharge;
- (2) These changes in stormwater runoff contribute to increased quantities of water-borne pollutants and alterations in hydrology which are harmful to public health and safety as well as to the natural environment; and
- (3) These effects can be managed and minimized by applying proper design and well-planned controls to manage stormwater runoff from development and redevelopment.

Further, the Federal Water Pollution Control Act of 1972 ("Clean Water Act") and federal phase II stormwater rules promulgated under it, as well as rules of the state environmental management commission promulgated in response to federal phase II requirements, compel certain urbanized areas, including this jurisdiction, to adopt the minimum stormwater controls such as those included in this article.

Therefore, these water quality and quantity regulations are adopted to meet the requirements of state and federal law regarding control of stormwater runoff and discharge.

(Ord. No. 3764, § 1(103), 11-26-2007)

Sec. 18-104. - Purpose.

(a) *General.* The purpose of this article is to protect, maintain and enhance the public health, safety, environment and general welfare by establishing minimum requirements and procedures to control the adverse effects of increased post-construction stormwater runoff and non-point source pollution associated with development and redevelopment. It has been determined that proper management of construction-related and post-construction stormwater runoff will minimize damage to public and private property and infrastructure, safeguard the public health, safety, and general welfare, and protect water and aquatic resources.

(b) *Specific.* This article seeks to meet its general purpose through the following specific objectives and means:

- (1) Establishing decision-making processes for development and redevelopment that protect the integrity of watersheds and preserve the health of water resources;
- (2) Minimizing changes to the pre-development hydrologic response for development and redevelopment in their post-construction state in accordance with the requirements of this article for the applicable design storm in order to reduce flooding, streambank erosion, and non-point and point source pollution, as well as to maintain the integrity of stream channels, aquatic habitats and

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healthy stream temperatures;

- (3) Establishing minimum post-construction stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality;
- (4) Establishing design and review criteria for the construction, function, and use of structural stormwater control facilities that may be used to meet the minimum post-construction stormwater management standards;
- (5) Establishing criteria for the use of better management and site design practices, such as the preservation of greenspace and other conservation areas;
- (6) Establishing provisions for the long-term responsibility for and maintenance of structural and nonstructural stormwater best management practices (BMPs) to ensure that they continue to function as designed, are maintained appropriately, and pose minimum risk to public safety; and
- (7) Establishing administrative procedures for the submission, review, approval and disapproval of stormwater management plans, for the inspection of approved projects, and to assure appropriate long-term maintenance.

(Ord. No. 3764, § 1(104), 11-26-2007)

Sec. 18-105. - Applicability and jurisdiction.

(a) *General.* The requirements of this article shall apply to all development and redevelopment within the corporate limits of this city and its extraterritorial jurisdiction, unless one of the following exemptions applies as of July 1, 2008:

- (1) Residential development and redevelopment, preliminary subdivision plan application or in the case of minor subdivisions, construction plan for required improvements, submitted and accepted for review;
- (2) For nonresidential development and redevelopment, preliminary subdivision plan application submitted and accepted for review, provided that subdivision-wide water quality and quantity features required at the time of submittal are contained within the submittal and provided the plan is subsequently approved and all necessary easements are properly established;
- (3) Zoning use application submitted and accepted for review for uses that do not require a building permit;
- (4) Certificate of building code compliance issued by the proper governmental authority;
- (5) Valid building permit issued pursuant to G.S. 153A-344 or G.S. 160A-385(b)(i), so long as the permit remains valid, unexpired, and unrevoked;
- (6) Common law vested right established (e.g., the substantial expenditure of resources (time, labor, money) based on a good faith reliance upon having received a valid governmental approval to proceed with a project); and/or
- (7) A conditional zoning district (including those districts which previously were described variously as conditional district, conditional use district, parallel conditional district and parallel conditional use district) approved prior to the effective date of this article/ordinance, provided

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formal plan submission has been made and accepted for review either prior to five years from July 1, 2008 in the case of conditional zoning districts approved on or after November 15, 1999, or prior to two years from July 1, 2008 in the case of conditional zoning districts approved prior to November 15, 1999, and provided such plans encompass either a minimum of 22.5 percent of the area of the project, or any phase of a project so long as such phase is part of a project that includes project-wide water quality requirements to achieve 85 percent TSS removal from developed areas. If no such formal plan submission occurs within the above-described five- or two-year time frames, the requirements of this article shall be applied to the project, except for total phosphorus removal, natural area and buffer requirements not in effect at the time of the approval of the conditional zoning district, all of which do not apply. Any changes to a conditional zoning district necessary to comply with the requirements of this article shall be made through administrative amendment and not through a rezoning.

(b) *Exemptions.* The requirements of this article shall not apply within the corporate limits or in the extraterritorial jurisdiction with respect to the following types of development or redevelopment activities:

(1) Residential development and redevelopment that cumulatively disturbs less than one acre and cumulatively creates less than 24 percent built upon area based on lot size or the lot is less than 20,000 square feet (lot must have been described by metes and bounds in a recorded deed prior to July 1, 2008 and can not be part of a larger development or redevelopment);

(2) Commercial and industrial development and redevelopment that cumulatively disturbs less than one acre and cumulatively creates less than 20,000 square feet of built upon area (built upon area includes gravel and other partially impervious materials);

(3) Redevelopment that disturbs less than 20,000 square feet, does not decrease existing stormwater controls and renovation and/or construction costs (excluding trade fixtures) do not exceed 100 percent of the tax value of the property; and

(4) Activities exempt from permit requirements of section 404 of the federal Clean Water Act, as specified in 40 CFR 232 (primarily, ongoing farming and forestry activities).

(c) *No development or redevelopment until compliance and permit.* No development or redevelopment shall occur except in compliance with the provisions of this article or unless exempted. No development or redevelopment for which a stormwater management permit, here after referred to as permit, is required pursuant to this article shall occur except in compliance with the provisions, conditions, and limitations of said permit.

(d) *Map.* The provisions of this article shall apply within the areas designated on the map titled "Post-Construction Ordinance Map of the City" (hereafter referred to as the "post-construction ordinance map"), which is adopted simultaneously herewith. The post-construction ordinance map and all explanatory matter contained thereon accompany and are hereby made a part of this article. The post-construction ordinance map shall be kept on file by the stormwater administrator or designee (hereinafter referred to as the "stormwater administrator") and shall be updated to take into account changes in the land area covered by this article and the geographic location of all structural BMPs permitted under this article. In the event of a dispute, the applicability of this article to a particular area of land or BMP shall be determined by appeal through the stormwater administrator

(Ord. No. 3764, § 1(105), 11-26-2007)

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Sec. 18-106. - Design manual.

(a) *Reference to design manual.* The stormwater administrator shall use the policy, criteria, and information, including technical specifications and standards, in the design manual as the basis for decisions about stormwater management permits and about the design, implementation and performance of structural and non-structural stormwater BMPs.

The design manual includes a list of acceptable stormwater treatment practices, including the specific design criteria for each stormwater practice. Stormwater treatment practices that are designed and constructed in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance standards of this article and the phase II laws. Failure to construct stormwater treatment practices in accordance with these criteria may subject the violator to a civil penalty as described in division 7.

(b) *Relationship of design manual to other laws and regulations.* If the specifications or guidelines of the design manual are more restrictive or apply a higher standard than other laws or regulations, that fact shall not prevent application of the specifications or guidelines in the design manual.

(c) *Changes to standards and specifications.* Standards, specifications, guidelines, policies, criteria, or other information in the design manual in affect at the time of acceptance of a complete application shall control and shall be utilized in reviewing the application and in implementing this article with regard to the application.

(d) *Amendments to design manual.* The design manual may be updated and expanded from time to time, based on advancements in technology and engineering, improved knowledge of local conditions, or local monitoring or maintenance experience.

Prior to amending or updating the design manual, proposed changes shall be generally publicized and made available for review, and an opportunity for comment by interested persons shall be provided.

(Ord. No. 3764, § 1(107), 11-26-2007)

Sec. 18-107. - Relationship to other laws, regulations and private agreements.

(a) *Conflict of laws.* This article is not intended to modify or repeal any other ordinance, rule, regulation or other provision of law. The requirements of this article are in addition to the requirements of any other ordinance, rule, regulation or other provision of law, and where any provision of this article imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human or environmental health, safety, and welfare, shall control.

(b) *Private agreements.* This article is not intended to revoke or repeal any easement, covenant, or other private agreement. However, where the regulations of this article are more restrictive or impose higher standards or requirements than such easement, covenant, or other private agreement, then the requirements of this article shall govern. Nothing in this article shall modify or repeal any private covenant or deed restriction, but such covenant or restriction shall not legitimize any failure to comply with this article. In no case shall the city be obligated to enforce the provisions of any easements, covenants, or agreements between private parties.

(Ord. No. 3764, § 1(108), 11-26-2007)

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Sec. 18-108. - Severability.

If the provisions of any section, subsection, paragraph, subdivision or clause of this article shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of this article.

(Ord. No. 3764, § 1(109), 11-26-2007)

Sec. 18-109. - Effective date and transitional provisions.

(a) *Effective date.* This article shall take effect on July 1, 2008.

(b) *Violations continue.* Any violation of the provisions of this article existing as of July 1, 2008 shall continue to be a violation under this article and be subject to penalties and enforcement unless the use, development, construction, or other activity complies with the provisions of this article.

(Ord. No. 3764, § 1(110), 11-26-2007)

Sec. 18-110. - Definitions.

When used in this article, the following words and terms shall have the meaning set forth in this section, unless other provisions of this article specifically indicate otherwise.

Administrative manual means a manual developed by the stormwater administrator and distributed to the public to provide information for the effective administration of this article, including but not limited to application requirements, submission schedule, fee schedule, maintenance agreements, criteria for mitigation approval, criteria for recordation of documents, inspection report forms, requirements for submittal of bonds, a copy of this article, and where to obtain the design manual.

Best management practices (BMPs) means a structural management facility used singularly or in combination for stormwater quality and quantity treatment to achieve water quality protection goals.

Buffer means a natural or vegetated area through which stormwater runoff flows in a diffuse manner so that the runoff does not become channelized and which provides for infiltration of the runoff and filtering of pollutants.

Buffer zones. In the Central and Western Catawba Districts, streams draining greater than or equal to 50 acres but less than 300 acres have a two-zone buffer including a stream side and upland zone. Buffers for streams draining greater than or equal to 300 acres have three zones as shown below. The amount of disturbance allowed in the buffer differs in each zone. In the Yadkin-Southeast Catawba there are no zones, the entire buffer is undisturbed.

IMAGE NOT FOUND:\file1.municode.com99708-110-01.jpg

Buffer widths. Viewed aerially, the stream buffer width is measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

Built-upon area (BUA) means that portion of a property that is covered by impervious or partially impervious surface including, but not limited to, buildings; pavement and gravel areas such as roads, parking lots, and paths; and recreation facilities such as tennis courts (activity fields that have been

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designed to enhance displacement of runoff, such as compaction and grading or installation of sodded turf, and underground drainage systems for public parks and schools will be considered built-upon area.) "Built-upon area" does not include a wooden slatted deck or the water area of a swimming pool.

Charlotte BMP manual means the manual of design criteria, construction standards, and details for stormwater management facilities prepared by the stormwater administrator, as periodically amended, which regulates and controls the provisions and construction of best management practices relating to post construction stormwater controls. Whenever reference is made to "standards," "design manual," or "manual," it refers to the latest published edition of this document.

Commercial development or redevelopment means any land disturbing activity that is not residential development or redevelopment as defined herein.

Development means land-disturbing activity that creates built upon area or that otherwise decreases the infiltration of precipitation into the soil.

Disturbance means any use of the land by any person or entity which results in a change in the natural cover or topography of the land.

Drainage area means That area of land that drains to a common point on a project site.

Floodplain means the low, periodically-flooded lands adjacent to streams. For land use planning purposes, the regulatory floodplain is usually viewed as all lands that would be inundated by the regulatory flood.

Grass field means land on which grasses and other herbaceous plants dominate and trees over six feet in height are sparse or so widely scattered that less than five percent of the land area is covered by a tree canopy.

Industrial uses means land used for industrial purposes only. Commercial (or other non-industrial) businesses operating on industrially-zoned property shall not be considered an industrial use.

Larger common plan of development or sale means any contiguous area where multiple separate and distinct construction or land disturbing activities will occur under one plan. A plan is any announcement or piece of documentation (including but not limited to public notice or hearing, drawing, permit application, zoning request, or site design) or physical demarcation (including but not limited to boundary signs, lot stakes, or surveyor markings) indicating that construction activities may occur on a specific plot.

Low impact development (LID) means the integration of site ecology and environmental goals and requirements into all phases of urban planning and design from the individual residential lot level to the entire watershed.

Mitigation means actions taken either on-site or off-site as allowed by this article to offset the impacts of a certain action.

Multifamily means a group of two or more attached, duplex, triplex, quadruplex, or multi-family buildings, or a single building of more than 12 units constructed on the same lot or parcel of land under single ownership, and planned and developed with a unified design of buildings and coordinated common open space and service areas in accordance with the requirements of chapter 9 of the zoning ordinance for the zoning district in which it is located.

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Natural area means land that consists of natural areas containing trees and other natural shrubs consisting of either undisturbed areas or disturbed areas that have been replanted in accordance with the criteria established in this article.

Non-point source (NPS) pollution means forms of pollution caused by sediment, nutrients, organic and toxic substances originating from land use activities and carried to lakes and streams by surface runoff.

Owner means the legal or beneficial owner of land, including but not limited to a fee owner, mortgagee or vendee in possession, receiver, executor, trustee, or long-term or commercial lessee, or any other person or entity holding proprietary rights in the property or having legal power of management and control of the property. "Owner" shall include long-term commercial tenants; management entities, such as those charged with or engaged in the management of properties for profit; and every person or entity having joint ownership of the property. A secured lender not in possession of the property does not constitute an owner, unless the secured lender is included within the meaning of "owner" under another description in this definition, such as a management entity.

Person(s) means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, interstate body, or other legal entity.

Redevelopment means any land-disturbing activity that does not result in a net increase in built-upon area and that provides greater or equal stormwater control than the previous development.

Residential development means a land disturbing activity containing dwelling units with open yards on at least two sides where land is sold with each dwelling unit.

Stormwater administrator means the city engineer or designee that administers and enforces this article.

Stormwater advisory committee (SWAC) means the Charlotte-Mecklenburg Stormwater Advisory Committee as established by joint resolutions of the city council, Mecklenburg County Board of Commissioners and the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville, together with any amendments thereto.

Stormwater management permit means the development or redevelopment plan, as approved by the stormwater administrator, that details how stormwater runoff will be controlled through structural and/or nonstructural management features.

Top of bank means the landward edge of the stream channel during high water or bankfull conditions at the point where the water begins to overflow onto the floodplain.

Topsoil means natural, fertile soil capable of sustaining vigorous plant growth that is of uniform composition throughout with an admixture of subsoil, has an acidity range of pH 5.5—7.0.

Total phosphorus (TP) means a nutrient that is essential to the growth of organisms but when it occurs in high enough concentrations it can negatively impact water quality conditions. Total phosphorus includes both dissolved and suspended forms of reactive phosphorus, acid hydrolyzable phosphorus and organic phosphorus as measured by Standard Method 4500-P.

Total suspended solids (TSS) means total suspended matter in water which includes particles collected on a filter with a pore size of two microns as measured by Standard Method 2540-D, which is commonly expressed as a concentration in terms of milligrams per liter (mg/l) or parts per million (ppm).

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(Ord. No. 3764, § 8, 11-26-2007)

Secs. 18-111—18-120. - Reserved.

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[Sec. 18-121. - Review and decision making entities.](#)

[Sec. 18-122. - Stormwater management permit.](#)

[Sec. 18-123. - As-built plans and final approval.](#)

[Sec. 18-124. - Appeals and variances.](#)

[Secs. 18-125—18-140. - Reserved.](#)

Sec. 18-121. - Review and decision making entities.

(a) *Stormwater administrator.*

(1) *Designation.* The city engineer has been designated as the stormwater administrator and he, or his designee, is authorized to administer and enforce these regulations.

(2) *Powers and duties.* In addition to the powers and duties that may be conferred by other provisions of this Code and other laws, the stormwater administrator shall have the following powers and duties under this article:

- a. To review and approve or disapprove applications submitted pursuant to this article.
- b. To make determinations and render interpretations of this article.
- c. To establish application requirements and schedules for submittal and review of applications and appeals.
- d. To enforce this article in accordance with its enforcement provisions.
- e. To maintain records, maps, and official materials as relate to the adoption, amendment, enforcement, or administration of this article.
- f. To provide expertise and technical assistance upon request to the city council and the stormwater advisory committee (SWAC).
- g. To designate appropriate other person(s) who shall carry out the powers and duties of the stormwater administrator.
- h. To provide information and recommendations relative to variances and information as requested by SWAC in response to appeals.
- i. Prepare and make available to the public an administrative manual that includes: the stormwater management permit application; submittal checklist; fee schedule; maintenance agreements; and a reference to the design manual.
- j. To take any other action necessary to administer the provisions of this article.

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(b) *Powers and duties of the stormwater advisory committee.* The stormwater advisory committee, hereinafter referred to as SWAC, shall have the following powers and duties:

(1) *Administrative review.* To hear and decide appeals according to the procedures set forth in this section, where it is alleged there is an error in any order, decision, determination, or interpretation made by the stormwater administrator in the enforcement of this article, including assessments of remedies and/or penalties.

(2) *Variances.* To grant variances in specific cases from the terms of this article according to the standards and procedures herein.

(Ord. No. 3764, § 2(201), 11-26-2007)

Sec. 18-122. - Stormwater management permit.

(a) *Stormwater management permit required.* A stormwater management permit is required for all proposed development and redevelopment unless exempt pursuant to this article. For the purpose of this article, the final approved stormwater management plan as contained in the development or redevelopment plan shall constitute the stormwater management permit.

(b) *Submission of a stormwater management plan.*

(1) *General.* A preliminary stormwater management plan developed in accordance with the specifications set forth in the administrative manual must be submitted to the planning staff or land development division as part of the preliminary plan for development or redevelopment and will be reviewed in accordance with established procedures.

(2) *Stormwater management plan contents and form.* The stormwater administrator shall establish requirements for the content and form of the preliminary stormwater management plan. These general requirements shall be contained in the administrative manual, which may be amended from time to time.

(3) *Permit review fees.* A fee, as established by city council, shall accompany the submission of the preliminary stormwater management plan.

(4) *Complete submission.* A preliminary stormwater management plan will not be considered complete until it contains all elements required by the stormwater administrator, along with the appropriate fee. If the stormwater administrator finds that a preliminary stormwater management plan is incomplete, the applicant shall be notified of the deficient elements and provided with an opportunity to correct the plan. No review of the stormwater management plan will commence until the stormwater administrator has determined the plan is complete.

(c) *Review and approval of stormwater management plan.*

(1) *Preparation by professional required.* The preliminary stormwater management plan shall be prepared by a registered state professional engineer or registered landscape architect. The engineer or registered landscape architect shall certify that the design of all stormwater management facilities and practices meets the requirements of these regulations.

(2) *Final approval of stormwater management plan.* If the stormwater administrator finds that the stormwater management plan complies with the requirements of these regulations, the stormwater administrator shall approve the stormwater management plan, which approval shall constitute the

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issuance of the permit. The stormwater administrator may impose conditions of approval as needed to ensure compliance with this article. The conditions shall be included in the permit as part of the approval.

(3) *Effect of the permit.* The permit issued under the provisions of this chapter shall remain valid for a period of three years from the date of approval. If no work on the site in furtherance of the plan has commenced within the three-year period, the permit and plan approval will become null and void and a new application will be required to develop the site. If work on the site in furtherance of the plan has commenced that involves any utility installations or street improvements except grading, the permit and plan shall remain valid and in force and the project may be completed in accordance with the approved plan.

(4) *Disapproval of stormwater management plan.* If the stormwater administrator disapproves the preliminary stormwater management plan, the grounds for such disapproval will be stated in writing to the applicant. After such disapproval, an appeal from that decision may be taken to SWAC in accordance with section 18-124. SWAC may approve, disapprove, in whole or in part, or otherwise modify the action of the stormwater administrator. A final stormwater management plan approved by SWAC, after appeal from the decision of the stormwater administrator, will qualify as the permit.

(Ord. No. 3764, § 2(202), 11-26-2007)

Sec. 18-123. - As-built plans and final approval.

The applicant shall certify that the completed project is in accordance with the approved stormwater management plans and designs, and shall submit actual "as-built" plans for all stormwater management facilities or practices after final construction is completed. Failure to provide approved as-built plans within the time frame specified by the stormwater administrator may result in assessment of penalties as specified in division 7. At the discretion of the stormwater administrator, performance securities or bonds may be required for stormwater management facilities or practices until as-built plans are approved.

As-built plans shall show the final design specifications for all stormwater management facilities and practices and the field location, size, depth, and planted vegetation of all measures, controls, and devices, as installed, and location and size of all natural area and tree plantings. The designer of the stormwater management measures and plans shall certify, under seal, that the as-built stormwater measures, controls, and devices are in compliance with the approved stormwater management plans and designs and with the requirements of this article. As conditions of the as-built plan(s) approval, the designer will submit a digital copy of the as-built plan(s) as described in the administrative manual to the stormwater administrator for the purpose of maintaining records, performing inspections, maintenance and other future needs as determined by the city.

Approved final as-built plans and a final inspection by the stormwater administrator are required before a project is determined to be in compliance with this article. At the discretion of the stormwater administrator, certificates of occupancy may be withheld pending receipt of as-built plans and the completion of a final inspection and approval of a project.

(Ord. No. 3764, § 2(203), 11-26-2007)

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Sec. 18-124. - Appeals and variances.

(a) *Petition to SWAC for appeal or variance.* An appeal may be initiated by any aggrieved person affected by any decision, order, requirement, or determination relating to the interpretation or application of this article. A petition for variance from the requirements of this article may be initiated by the owner of the affected property, an agent authorized in writing to act on the owner's behalf, or a person having written contractual interest in the affected property.

(1) *Filing of notice of appeal.* A notice of appeal shall be filed with the stormwater administrator contesting any order, decision, determination or interpretation within 30 working days of the day of the order, decision, determination or interpretation made or rendered by the stormwater administrator in the enforcement of this article, including assessments of remedies and penalties. SWAC may waive or extend the 30-day deadline only upon determining that the person filing the notice of appeal received no actual or constructive form of notice of the order, decision, determination or interpretation being appealed. The notice filed with the stormwater administrator shall be accompanied by a nonrefundable filing fee as established by SWAC as well as a list of adjoining properties including tax parcel numbers and the name and address of each owner. Failure to timely file such notice and fee shall constitute a waiver of any rights to appeal under this article.

Upon receipt of a notice of appeal, the stormwater administrator shall transmit to SWAC copies of all administrative papers, records, and other information regarding the subject matter of the appeal.

The filing of such notice shall stay any proceedings in furtherance of the contested action, except the stormwater administrator may certify in writing to SWAC that because of facts stated in the certificate, a stay imposes an imminent peril to life or property or would seriously interfere with the enforcement of this article. SWAC shall then review such certificate and may override the stay of further proceedings.

(2) *Filing a variance petition.* A petition for variance, in the form prescribed by SWAC, shall be filed with the stormwater administrator accompanied by a nonrefundable filing fee as established by SWAC as well as a list of adjoining properties including tax parcel numbers and the name and address of each owner. Upon receipt of a variance petition, the stormwater administrator shall transmit to SWAC copies of all information regarding the variance.

(3) *Notice and hearing.* SWAC shall, in accordance with the rules adopted by it for such purposes, hold public hearings on any appeal or variance petition which comes before it. SWAC shall, prior to the hearing, mail written notice of the time, place and subject of the hearing to the person or persons filing the notice of appeal or variance petition, to the owners of the subject property and to the owners of property adjacent to the subject property. The hearing shall be conducted in the nature of a quasi-judicial proceeding with all findings of fact supported by competent, material evidence.

(4) *Standards for granting an appeal.* SWAC shall reverse or modify the order, decision, determination or interpretation under appeal only upon finding an error in the application of this article on the part of the stormwater administrator. In modifying the order, decision, determination or interpretation, SWAC shall have all the powers of the stormwater administrator from whom the appeal is taken.

If SWAC finds that a violation of this article has occurred, but that in setting the amount of the

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penalty the stormwater administrator has not considered or given appropriate weight to either mitigating or aggravating factors, SWAC shall either decrease or increase the per day civil penalty within the range allowed by this article. Any decision of SWAC that modifies the amount of a civil penalty shall include, as part of the findings of fact and conclusions of law, findings as to which mitigating or aggravating factors exist and the appropriate weight that should have been given to such factors by the stormwater administrator in setting the amount of the civil penalty levied against the petitioner.

(5) *Standards for granting a variance.* Before granting a variance, SWAC shall have made all the following findings:

- a. Unnecessary hardships would result from the strict application of this article.
- b. The hardships result from conditions that are peculiar to the property, such as the location, size or topography of the property.
- c. The hardships did not result from actions taken by the petitioner.
- d. The requested variance is consistent with the spirit, purpose, and intent of this article; will secure public safety and welfare; and will preserve substantial justice.

(6) *Variance conditions.* SWAC may impose reasonable and appropriate conditions and safeguards upon any variance it grants.

(7) *Action by SWAC.* SWAC bylaws will determine the number of concurring votes needed to grant an appeal or request for variance. SWAC shall grant or deny the variance or shall reverse, affirm or modify the order, decision, determination or interpretation under appeal by recording in the minutes of the meeting the reasons that SWAC used and the findings of fact and conclusions of law made by SWAC to reach its decision.

(8) *Rehearing.* SWAC shall refuse to hear an appeal or variance petition which has been previously denied unless it finds there have been substantial changes in the conditions or circumstances relating to the matter.

(b) *Review by superior court.* Every decision of SWAC shall be subject to superior court review by proceedings in the nature of certiorari. Petition for review by the superior court shall be filed with the clerk of superior court within 30 days after the later occurring of the following:

- (1) The decision of SWAC is filed, or
- (2) A written copy thereof is delivered to every aggrieved party who has filed a written request for such copy with SWAC at the time of its hearing of the case.

(Ord. No. 3764, § 2(205), 11-26-2007)

Editor's note— Ord. No. 3764, § 2(205), adopted November 26, 2007, enacted provisions intended for use as subsections 1. and 2. To preserve the style of this Code, and at the discretion of the editor, said provisions have been redesignated as subsections (a) and (b).

Secs. 18-125—18-140. - Reserved.

DIVISION 3. - STANDARDS

- [Sec. 18-141. - General standards.](#)
- [Sec. 18-142. - Watershed districts.](#)
- [Sec. 18-143. - Standards for the Central Catawba district.](#)
- [Sec. 18-144. - Standards for the Western Catawba district.](#)
- [Sec. 18-145. - Standards for the Yadkin-Southeast Catawba district.](#)
- [Sec. 18-146. - Standards for stormwater control measures.](#)
- [Sec. 18-147. - Total phosphorus mitigation.](#)
- [Sec. 18-148. - Deed recordation and indications on plat.](#)
- [Secs. 18-149—18-160. - Reserved.](#)

Sec. 18-141. - General standards.

All development and redevelopment to which this article applies shall comply with the standards of this section.

(Ord. No. 3764, § 3(301), 11-26-2007)

Sec. 18-142. - Watershed districts.

Standards for development and redevelopment vary depending on the watershed district in which a project is located as described in the "Post-Construction Ordinance Map of the City," which is adopted simultaneously herewith as described in subsection 18-105(d). The city is divided into the following watershed districts for purposes of this article:

- (1) *Central Catawba*. That area of land that drains to Sugar, Little Sugar and McAlpine Creeks in the city, including all tributaries, except Six Mile Creek.
- (2) *Western Catawba*. That area of land that drains to Lake Norman, Mountain Island Lake and Lake Wylie in Mecklenburg County including all creeks and tributaries.
- (3) *Yadkin-Southeast Catawba*. That area of land that drains to the Yadkin River basin in Mecklenburg County, including all creeks and tributaries and in addition including Six Mile Creek.

(Ord. No. 3764, § 3(302), 11-26-2007)

Editor's note— Ord. No. 3764, § 3(302), adopted November 26, 2007, enacted provisions intended for use as subsections (a)—(c). To preserve the style of this Code, and at the discretion of the editor, said provisions have been redesignated as subsections (1)—(3).

Sec. 18-143. - Standards for the Central Catawba district.

(a) *Standards for low density projects*. Any drainage area within a project boundary in the Central Catawba district is considered low density when said drainage area has less than or equal to 24 percent built upon area as determined by the methodology established in the design manual. Such low-density projects shall comply with each of the following standards.

- (1) *Vegetated conveyances*. Stormwater runoff shall be transported by vegetated conveyances to the maximum extent practicable.

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(2) *Stream buffers.* The S.W.I.M. stream buffer requirements apply in the Central Catawba as described in the jurisdiction's zoning ordinance, chapter 12. In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the stormwater management permit application along with all buffer areas. All perennial and intermittent streams draining less than 50 acres shall have a minimum 30-foot vegetated buffer including a ten-foot zone adjacent to the bank. Disturbance of the buffer is allowed; however, any disturbed area must be revegetated and disturbance of the ten-foot zone adjacent to the bank shall require stream bank stabilization using bioengineering techniques as specified in the design manual. All perennial and intermittent streams draining greater than or equal to 50 acres and less than 300 acres shall have a 35-foot buffer with two zones, including stream side and upland. Streams draining greater than or equal to 300 acres and less than 640 acres shall have a 50-foot buffer with three zones, including stream side, managed use and upland. Streams draining greater than or equal to 640 acres shall have a 100-foot buffer, plus 50 percent of the area of the floodfringe beyond 100 feet. This buffer shall consist of three zones, including stream side, managed use and upland. All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the different buffer zones as described in the S.W.I.M. stream buffer requirements in the city's zoning ordinance, chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply in the Central Catawba district (except buffer widths).

(b) *Standards for high density projects.* Any drainage area within a project boundary in the Central Catawba district is considered high density when said drainage area has greater than 24 percent built upon area as determined by the methodology established in the design manual. Such high-density projects shall implement stormwater treatment systems that comply with each of the following standards.

(1) *Stormwater quality treatment volume.* Stormwater quality treatment systems shall treat the runoff generated from the first inch of rainfall.

(2) *Stormwater quality treatment.* All structural stormwater treatment systems used to meet these requirements shall be designed to have a minimum of 85% average annual removal for total suspended solids. Low impact development techniques as described in the design manual can be used to meet this requirement.

(3) *Stormwater treatment system design.* General engineering design criteria for all projects shall be in accordance with 15A NCAC 2H .1008(c), as explained in the design manual.

(4) *Stream buffers.* The S.W.I.M. stream buffer requirements apply in the Central Catawba as described in the city's zoning ordinance, chapter 12. In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the stormwater management permit application along with all buffer areas. All perennial and intermittent streams draining less than 50 acres shall have a minimum 30-foot vegetated buffer including a ten-foot zone adjacent to the bank. Disturbance of the buffer is allowed; however, any disturbed area must be revegetated and disturbance of the ten-foot zone adjacent to the bank shall require stream bank stabilization using bioengineering techniques as specified in the design manual. All perennial and intermittent streams draining greater than or equal to 50 acres and less than 300 acres shall have a 35-foot buffer with two zones, including stream side and upland. Streams draining greater than or equal to 300 acres and less than 640 acres shall have a 50-foot buffer with three zones, including stream side, managed use and upland. Streams draining greater

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than or equal to 640 acres shall have a 100-foot buffer, plus 50 percent of the area of the floodfringe beyond 100 feet. This buffer shall consist of three zones, including stream side, managed use and upland. All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the different buffer zones as described in the S.W.I.M. stream buffer requirements in the jurisdiction's zoning ordinance, chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply in the Central Catawba district (except buffer widths).

(5) *Stormwater volume control.* Stormwater treatment systems shall be installed to control the volume leaving the project site at post-development for the one-year, 24-hour storm except I-1 and I-2 zoned developments which are exempt from this requirement. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120 hours.

(6) *Stormwater peak control.* For residential land disturbing activities exceeding 24 percent built-upon area, peak control shall be installed for the appropriate storm frequency (i.e., 10-, 25-, 50- or 100-year, six-hour) as determined by the stormwater administrator based on a downstream flood analysis provided by the owner or designee using the criteria specified in the design manual or if a downstream analysis is not performed the peak shall be controlled for the ten-year and 25-year, six-hour storms. For commercial land disturbing activities exceeding 24 percent built-upon area, peak control shall be installed for the ten-year, six-hour storm and additional peak control provided for the appropriate storm frequency (i.e., 25-, 50- or 100-year, six-hour) as determined by the stormwater administrator based on a downstream flood analysis provided by the owner or designee using the criteria specified in the design manual or if a downstream analysis is not performed the peak shall be controlled for the ten-year and 25-year, six-hour storms. Controlling the one-year, 24-hour volume achieves peak control for the two-year, six-hour storm. For I-1 and I-2 zoned developments, peak control shall be installed for the two-year and ten-year, six-hour storms and additional peak control provided for the appropriate storm frequency (i.e., 25-, 50- or 100-year, six-hour) based on a downstream flood analysis or if a downstream analysis is not performed the peak shall be controlled for the two-year, ten-year and 25-year, six-hour storms. The emergency overflow and outlet works for any pond or wetland constructed as a stormwater BMP shall be capable of safely passing a discharge with a minimum recurrence frequency as specified in the design manual. For detention basins, the temporary storage capacity shall be restored within 72 hours. Requirements of the Dam Safety Act shall be met when applicable.

(Ord. No. 3764, § 3(303), 11-26-2007)

Sec. 18-144. - Standards for the Western Catawba district.

(a) *Standards for low density projects.* Any drainage area within a project boundary in the Western Catawba district is considered low density when said drainage area has less than or equal to 12 percent built-upon area as determined by the methodology established in the design manual. Such low-density projects shall comply with each of the following standards:

(1) *Vegetated conveyances.* Stormwater runoff shall be transported by vegetated conveyances to the maximum extent practicable.

(2) *Stream buffers.* The S.W.I.M. stream buffer requirements apply in the Western Catawba as described in the city's zoning ordinance, chapter 12 as do the buffers described for the watershed overlays contained in chapter 10. When there is a conflict between buffer requirements, the more

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stringent always applies. In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the stormwater management permit application along with all buffer areas. All perennial and intermittent streams draining less than 50 acres shall have a minimum 30-foot vegetated buffer including a ten-foot zone adjacent to the bank. Disturbance of the buffer is allowed; however, any disturbed area must be revegetated and disturbance of the ten-foot zone adjacent to the bank shall require stream bank stabilization using bioengineering techniques as specified in the design manual. All perennial and intermittent streams draining greater than or equal to 50 acres and less than 300 acres shall have a 35-foot buffer with two zones, including stream side and upland. Streams draining greater than or equal to 300 acres and less than 640 acres shall have a 50-foot buffer with three zones, including stream side, managed use and upland. Streams draining greater than or equal to 640 acres shall have a 100-foot buffer, plus 50 percent of the area of the floodfringe beyond 100 feet. This buffer shall consist of three zones, including stream side, managed use and upland. All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the different buffer zones as described in the S.W.I.M. stream buffer requirements in the jurisdiction's zoning ordinance, chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply in the Western Catawba district (except buffer widths).

(b) *Development standards for high density projects.* Any drainage area within a project boundary in the Western Catawba district is considered high density when said drainage area has greater than 12 percent built upon area as determined by the methodology established in the design manual. The built upon area caps specified in the water supply watershed protection requirements contained in the city's zoning ordinance shall apply. High-density projects shall implement stormwater treatment systems that comply with each of the following standards:

(1) *Stormwater quality treatment volume.* Stormwater quality treatment systems shall treat the runoff generated from the first inch of rainfall.

(2) *Stormwater quality treatment.* All structural stormwater treatment systems used to meet these requirements shall be designed to have a minimum of 85 percent average annual removal for total suspended solids and 70 percent average annual removal for total phosphorus except I-1 and I-2 zoned developments which are exempt from the total phosphorus removal requirement. I-1 and I-2 zoned developments shall implement a management plan for the proper handling and application of pesticides and fertilizers to reduce negative water quality impacts. Low impact development techniques as described in the design manual can be used to meet pollutant removal requirements.

(3) *Stormwater treatment system design.* General engineering design criteria for all projects shall be in accordance with 15A NCAC 2H .1008(c), as explained in the design manual.

(4) *Stream buffers.* The S.W.I.M. stream buffer requirements apply in the Western Catawba [district] as described in the city's zoning ordinance, chapter 12 as do the buffers described for the watershed overlays contained in chapter 10. When there is a conflict between buffer requirements, the more stringent always applies. In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the stormwater management permit application along with all buffer areas. All perennial and intermittent streams draining less than 50 acres shall have a minimum 30-foot vegetated buffer including a ten-foot zone adjacent to the bank. Disturbance of the buffer is allowed; however, any disturbed area must be revegetated

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and disturbance of the ten-foot zone adjacent to the bank shall require stream bank stabilization using bioengineering techniques as specified in the design manual. All perennial and intermittent streams draining greater than or equal to 50 acres and less than 300 acres shall have a 35-foot buffer with two zones, including stream side and upland. Streams draining greater than or equal to 300 acres and less than 640 acres shall have a 50-foot buffer with three zones, including stream side, managed use and upland. Streams draining greater than or equal to 640 acres shall have a 100-foot buffer, plus 50 percent of the area of the floodfringe beyond 100 feet. This buffer shall consist of three zones, including stream side, managed use and upland. All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the different buffer zones as described in the S.W.I.M. stream buffer requirements in the jurisdiction's zoning ordinance, chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply in the Western Catawba district (except buffer widths).

(5) *Stormwater volume control.* Stormwater treatment systems shall be installed to control the volume leaving the project site at post-development for the one-year, 24-hour storm except I-1 and I-2 zoned developments which are exempt from this requirement. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120 hours.

(6) *Stormwater peak control.* For residential land disturbing activities exceeding 12 percent built-upon area, peak control shall be installed for the appropriate storm frequency (i.e., 10-, 25-, 50- or 100-year, six-hour) as determined by the stormwater administrator based on a downstream flood analysis provided by the owner or designee using the criteria specified in the design manual or if a downstream analysis is not performed the peak shall be controlled for the ten-year and 25-year, six-hour storms. For commercial land disturbing activities exceeding 12 percent built-upon area, peak control shall be installed for the ten-year, six-hour storm and additional peak control provided for the appropriate storm frequency (i.e., 25-, 50- or 100-year, six-hour) as determined by the stormwater administrator based on a downstream flood analysis provided by the owner or designee using the criteria specified in the design manual or if a downstream analysis is not performed the peak shall be controlled for the ten-year and 25-year, six-hour storms. Controlling the one-year, 24-hour volume achieves peak control for the two-year, six-hour storm. For I-1 and I-2 zoned developments, peak control shall be installed for the two-year and ten-year, six-hour storms and additional peak control provided for the appropriate storm frequency (i.e., 25-, 50- or 100-year, six-hour) based on a downstream flood analysis or if a downstream analysis is not performed the peak shall be controlled for the two-year, ten-year and 25-year, six-hour storms. The emergency overflow and outlet works for any pond or wetland constructed as a stormwater BMP shall be capable of safely passing a discharge with a minimum recurrence frequency as specified in the design manual. For detention basins, the temporary storage capacity shall be restored within 72 hours. Requirements of the Dam Safety Act shall be met when applicable.

(Ord. No. 3764, § 3(304), 11-26-2007)

Sec. 18-145. - Standards for the Yadkin-Southeast Catawba district.

(a) *Standards for low density projects.* Any drainage area within a project boundary in the Yadkin-Southeast Catawba District is considered low density when said drainage area has less than or equal to ten percent built upon area as determined by the methodology established in the design manual. Such low-density projects shall comply with each of the following standards:

(1) *Vegetated conveyances.* Stormwater runoff shall be transported by vegetated conveyances

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to the maximum extent practicable.

(2) *Stream buffers.* In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the stormwater management permit application along with all buffer areas. All perennial and intermittent streams draining less than 50 acres shall have a minimum 50-foot undisturbed buffer. All perennial and intermittent streams draining greater than or equal to 50 acres shall have a 100-foot undisturbed buffer, plus the entire floodplain. All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the stream side zone described in the S.W.I.M. stream buffer requirements in the jurisdiction's zoning ordinance, chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply in the Yadkin-Southeast Catawba district (except buffer widths).

Six Mile Creek watershed only. In addition to the above information for streams in the Yadkin-Southeast Basin Watershed, all perennial streams in the Six Mile Creek Watershed shall have 200-foot undisturbed buffers, plus entire floodplain and all intermittent streams in the Six Mile Creek Watershed shall have 100-foot undisturbed buffers all measured on each side of the stream from top of bank.

(b) *Standards for high density projects.* Any drainage area within a project boundary in the Yadkin-Southeast Catawba District is considered high density when said drainage area has greater than ten percent built upon area as determined by the methodology established in the design manual. Such high-density projects shall implement stormwater treatment systems that comply with each of the following standards:

(1) *Stormwater quality treatment volume.* Stormwater quality treatment systems shall treat the runoff generated from the first inch of rainfall.

(2) *Stormwater quality treatment.* All structural stormwater treatment systems used to meet these requirements shall be designed to have a minimum of 85 percent average annual removal for total suspended solids and 70 percent average annual removal for total phosphorus except I-1 and I-2 zoned developments which are exempt from the total phosphorus removal requirement. I-1 and I-2 zoned developments shall implement a management plan for the proper handling and application of pesticides and fertilizers to reduce negative water quality impacts. low impact development techniques as described in the design manual can be used to meet pollutant removal requirements.

(3) *Stormwater treatment system design.* General engineering design criteria for all projects shall be in accordance with 15A NCAC 2H .1008(c), as explained in the design manual.

(4) *Stream buffers.* In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the stormwater management permit application along with all buffer areas. All perennial and intermittent streams draining less than 50 acres shall have a minimum 50-foot undisturbed buffer. All perennial and intermittent streams draining greater than or equal to 50 acres shall have a 100-foot undisturbed buffer, plus the entire floodplain. All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the stream side zone described in the S.W.I.M. stream buffer requirements in the city's zoning ordinance, chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply in the Yadkin-Southeast Catawba District (except buffer widths).

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Six Mile Creek watershed only. In addition to the above information for streams in the Yadkin-Southeast Basin Watershed, all perennial streams in the Six Mile Creek Watershed shall have 200-foot undisturbed buffers, plus entire floodplain and all intermittent streams in the Six Mile Creek Watershed shall have 100-foot undisturbed buffers all measured on each side of the stream from top of bank.

(5) *Stormwater volume control.* Stormwater treatment systems shall be installed to control the volume leaving the project site at post-development for the one-year, 24-hour storm except I-1 and I-2 zoned developments which are exempt from this requirement. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120 hours.

(6) *Stormwater peak control.* For residential land disturbing activities exceeding ten percent built-upon area, peak control shall be installed for the appropriate storm frequency (i.e., 10-, 25-, 50- or 100-year, six-hour) as determined by the stormwater administrator based on a downstream flood analysis provided by the owner or designee using the criteria specified in the design manual or if a downstream analysis is not performed the peak shall be controlled for the ten-year and 25-year, six-hour storms. For commercial land disturbing activities exceeding ten percent built-upon area, peak control shall be installed for the ten-year, six-hour storm and additional peak control provided for the appropriate storm frequency (i.e., 25-, 50- or 100-year, six-hour) as determined by the stormwater administrator based on a downstream flood analysis provided by the owner or designee using the criteria specified in the design manual or if a downstream analysis is not performed the peak shall be controlled for the ten-year and 25-year, six-hour storms. Controlling the one-year, 24-hour volume achieves peak control for the two-year, six-hour storm. For I-1 and I-2 zoned developments, peak control shall be installed for the two-year and ten-year, six-hour storms and additional peak control provided for the appropriate storm frequency (i.e., 25-, 50- or 100-year, six-hour) based on a downstream flood analysis or if a downstream analysis is not performed the peak shall be controlled for the two-year, ten-year and 25-year, six-hour storms. The emergency overflow and outlet works for any pond or wetland constructed as a stormwater BMP shall be capable of safely passing a discharge with a minimum recurrence frequency as specified in the design manual. For detention basins, the temporary storage capacity shall be restored within 72 hours. Requirements of the Dam Safety Act shall be met when applicable.

(Ord. No. 3764, § 3(305), 11-26-2007)

Sec. 18-146. - Standards for stormwater control measures.

(a) *Evaluation according to contents of design manual.* All stormwater control measures and stormwater treatment practices (also referred to as best management practices, or BMPs) required under this article shall be evaluated by the stormwater administrator according to the policies, criteria, and information, including technical specifications, standards and the specific design criteria for each stormwater best management practice contained in the design manual. The stormwater administrator shall determine whether these measures will be adequate to meet the requirements of this article.

(b) *Determination of adequacy; presumptions and alternatives.* Stormwater treatment practices that are designed, constructed, and maintained in accordance with the criteria and specifications in the design manual will be presumed to meet the minimum water quality and quantity performance standards of this article. Whenever an applicant proposes to utilize a practice or practices not designed and constructed in accordance with the criteria and specifications in the design manual, the applicant shall have the burden of demonstrating that the practice(s) will satisfy the minimum water quality and

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quantity performance standards of this article before it can be approved for use. The stormwater administrator may require the applicant to provide such documentation, calculations, and examples as necessary for the stormwater administrator to determine whether such an affirmative showing is made.

(c) *Submittal of digital records.* Upon submittal of as-built plans, the location of storm drainage pipes, inlets and outlets as well as the location of all BMPs as well as natural area must be delivered to the stormwater administrator in the digital format specified in the administrative manual.

(Ord. No. 3764, § 3(306), 11-26-2007)

Sec. 18-147. - Total phosphorus mitigation.

(a) *Purpose.* The purpose of this mitigation is to reduce the cost of complying with the 70 percent total phosphorus removal criteria for development and redevelopment with greater than or equal to 24 percent built-upon area while ensuring the reduction of pollution loads and achievement of the ordinance objectives.

(b) *General description.* There are two total phosphorus mitigation options available to development and redevelopment greater than or equal to 24 percent built-upon area, including off-site mitigation and a buy-down option as described in this section. Both off-site and buy-down mitigation will result in the construction of retrofit BMPs in the same river basin (Catawba or Yadkin) as the mitigated site. In the Western Catawba district both forms of mitigation must occur in the watershed of the same named creek system for the purpose of ensuring a balance of total phosphorus loads to lake cove areas where phosphorus is a limiting pollutant with the exception that up to 30 percent of the buy-down money can be spent outside the watershed. In addition, the buy-down option is available provided the city has projects and/or property available for mitigation. There is no total phosphorus requirement in the Central Catawba District so the mitigation option is not necessary. The named creek (or drainage basin) systems referred to above include:

(1) *Western Catawba.* Studman Branch, Porter Branch, Neal Branch, Stowe Branch, Beaverdam Creek, Little Paw Creek, Paw Creek, Long Creek, Gar Creek, and the Lower Mountain Island watershed.

(2) *Yadkin-Southeast Catawba.* Six Mile Creek, Twelve Mile Creek, Caldwell Creek, McKee Creek, Reedy Creek, Fuda Creek, Back Creek, Mallard Creek, and Lower Clarke Creek.

(c) *Criteria for off-site mitigation.*

(1) The owner or designee of a proposed construction site that will include greater than or equal to 24 percent built upon area shall construct a BMP retrofit project designed to achieve an equivalent or greater net mass removal of total phosphorus as would be achieved by removing 70 percent of the total phosphorus from the proposed site. Off-site mitigation is allowed only for total phosphorus removal above 50 percent. On-site BMPs shall be constructed to achieve 50 percent removal of total phosphorus from the project site.

(2) The stormwater administrator shall receive, review, approve, disapprove or approve with conditions an "Application for Off-Site Total Phosphorus Mitigation." The stormwater administrator shall design this application to include all pertinent information. This application shall be submitted with the stormwater management permit application and shall at a minimum contain a description of the BMP(s) to be constructed, including their type and size as well as the pollutant removal efficiencies to be achieved. The location of the site where the BMP(s) are to be constructed shall

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be described, including the size of the drainage area to be treated and percentage and type of existing built upon area. The application must also include the pounds of total phosphorus being mitigated for and the pounds of total phosphorus reduced with the retrofit BMP(s). A legally valid instrument shall be submitted with the application to demonstrate that the applicant has land rights to perform the BMP retrofit on the property.

(3) The criteria for approval of off-site total phosphorus mitigation by the stormwater administrator are as follows:

- a. BMP(s) must be constructed in accordance with 15A NCAC 2H .1008(c), as explained in the design manual.
- b. BMP(s) must be sized for the corresponding watershed area according to the design manual.
- c. BMP(s) must be inspected by the stormwater administrator and found to be in compliance with all approved plans and specifications prior to the release of occupancy permits for the mitigated site.
- d. Following approval from the stormwater administrator, BMP(s) may be installed and credits obtained for pounds of total phosphorus removed that can be applied to future projects. These credits can be accumulated or "banked" for a period of time as specified by the stormwater administrator in the administrative manual.
- e. All off-site mitigation BMPs shall be subject to the maintenance requirements as well as installation and maintenance performance securities specified in division 6.

(d) *Criteria for total phosphorus buy-down option.*

(1) The owner or designee of a proposed construction site that will include greater than or equal to 24 percent built upon area may "buy-down" the 70 percent phosphorus removal requirement to no less than 50 percent. On-site BMPs must be installed to remove the remaining total phosphorus load. The money shall be used by the city to construct BMP retrofit projects designed to achieve an equivalent or greater net mass removal of total phosphorus as would be achieved by removing 70 percent of the total phosphorus from the proposed site.

(2) The stormwater administrator shall receive, review, approve, disapprove or approve with conditions an "application for total phosphorus buy-down." the stormwater administrator shall design this application to include all pertinent information. This application shall be submitted with the stormwater management permit application and shall at a minimum contain calculations showing the total load buy-down and all cost calculations as described in the administrative manual.

(3) The criteria for the buy-down option are as follows:

- a. The buy-down option shall not be approved by the stormwater administrator unless projects and/or properties are available for mitigation, including BMP construction, BMP maintenance, BMP rehabilitation and stream restoration.
- b. There is no time constraint for the city to spend mitigation money; however, the city shall strive to spend buy-down monies in a timely and efficient manner such that a net improvement in water quality results.

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c. All BMPs constructed by the city as part of this mitigation option shall be maintained by the jurisdiction into perpetuity.

(4) The criteria for calculating the buy-down cost shall be provided in the administrative manual.

(Ord. No. 3764, § 3(307), 11-26-2007; Ord. No. 4752, 10-10-2011)

Sec. 18-148. - Deed recordation and indications on plat.

The approval of the stormwater management permit shall require an enforceable restriction on property usage that runs with the land, such as plat, recorded deed restrictions or protective covenants, to ensure that future development and redevelopment maintains the site consistent with the approved project plans. The location of all designated natural area for a site shall be recorded at the Mecklenburg County Register of Deeds Office as "undisturbed natural area" or "re-vegetated natural area". Streams and buffer boundaries including the delineation of each buffer zone must be specified on all surveys and record plats. The applicable operations and maintenance agreement pertaining to every structural BMP shall be referenced on the final plat and shall be recorded with the Mecklenburg County Register of Deeds Office upon final plat approval. If no subdivision plat is recorded for the site, then the operations and maintenance agreement shall be recorded with the Mecklenburg County Register of Deeds Office so as to appear in the chain of title of all subsequent purchasers under generally accepted searching principles. A copy of the recorded maintenance agreement shall be provided to the stormwater administrator within 14 days following receipt of the recorded document. A maintenance easement shall be recorded for every structural BMP to allow sufficient access for adequate maintenance. The specific recordation and deed restriction requirements as well as notes to be displayed on final plats and deeds shall be contained in the administrative manual.

(Ord. No. 3764, § 3(308), 11-26-2007; Ord. No. 4752, 10-10-2011)

Secs. 18-149—18-160. - Reserved.

DIVISION 4. - DEVELOPMENT AND REDEVELOPMENT MITIGATION

[Sec. 18-161. - Mitigation payment.](#)

[Sec. 18-162. - Criteria for mitigation payment.](#)

[Secs. 18-163—18-170. - Reserved.](#)

Sec. 18-161. - Mitigation payment.

(a) *Lots less than one acre.* Development and redevelopment on a lot less than one acre in size are allowed to forego meeting the requirements of this article, except for required stream buffers, provided the city is paid a mitigation fee according to rates set forth in the administrative manual and provided such development and redevelopment are not part of a larger common plan of development or sale, even though multiple, separate or distinct activities take place at different times on different schedules.

(b) *Transit station areas and distressed business districts.* Development and redevelopment projects within transit station areas designated by the planning director based on corridor record of decisions, council adopted station area plan or distressed business districts designated by the economic

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development director are allowed by right to forego meeting the requirements of this article, except for required stream buffers and peak control and downstream analysis requirements on the increased impervious area of the project site, provided one of the following three measures are implemented on the site:

- (1) Provide 85 percent TSS removal from first inch of rainfall for entire project;
- (2) Provide one-year, 24-hour volume control and ten-year, six-hour peak control for entire project; or
- (3) Pay the city a mitigation fee according to rates set forth in the administrative manual for the pre-project built upon area and any additional impervious area not to exceed five acres. New impervious area in excess of five acres must comply with this article.

(c) *Redevelopment not within transit station areas or distressed business districts.* For a period of time beginning with approval of this ordinance amendment and ending April 30, 2014, projects involving redevelopment of existing built-upon-area and the cumulative addition of less than 20,000 square feet of new built-upon-area, are allowed by right to forego meeting the requirements of this article, except for required stream buffers and phosphorous requirements, provided one of the following measures is implemented on the site:

- (1) If an analysis of the downstream storm water conveyance system confirms that volume and peak control facilities may be waived by the storm water administrator, provide 85 percent TSS removal from first inch of rainfall for entire project and pay the city a mitigation fee according to rates set forth in the administrative manual for the pre-project built upon area and any additional impervious area;
- (2) If an analysis of the downstream storm water conveyance system confirms that volume and peak control facilities may be waived by the storm water administrator, pay the city a mitigation fee according to rates set forth in the administrative manual for the pre-project built upon area and any additional impervious area; or
- (3) Provide one-year, 24-hour volume control and ten-year, six-hour peak control for entire project and pay the city a mitigation fee according to rates set forth in the administrative manual for the pre-project built upon area and any additional impervious area.

(Ord. No. 3764, § 4(401), 11-26-2007; Ord. No. 4752, 10-10-2011)

Sec. 18-162. - Criteria for mitigation payment.

(a) *Notification to stormwater administrator.* The buy-right mitigation option does not require approval by the stormwater administrator; however, notification that this right is to be exercised for a particular lot must be made prior to the issuance of any permits for the project. This notification is to be made to the stormwater administrator on a standard form provided in the administrative manual.

(b) *Use of mitigation payment.* The city shall use the mitigation payment to install water quality enhancement measures, including but not limited to BMPs, stream restoration, natural area preservation, etc. BMP(s) installed using the mitigation payment must be constructed in accordance with 15A NCAC 2H .1008(c), as explained in the design manual. All BMPs constructed by the jurisdiction as part of this mitigation option shall be maintained by the jurisdiction into perpetuity. The city will pursue using these mitigation funds within the same watershed as the project site provided

adequate resources and property are available.

(Ord. No. 3764, § 4(402), 11-26-2007)

Secs. 18-163—18-170. - Reserved.

DIVISION 5. - NATURAL AREA

[Sec. 18-171. - Purpose.](#)

[Sec. 18-172. - General description.](#)

[Sec. 18-173. - Natural area criteria.](#)

[Sec. 18-174. - Natural area designation.](#)

[Sec. 18-175. - Natural area mitigation.](#)

[Secs. 18-176—18-190. - Reserved.](#)

Sec. 18-171. - Purpose.

Natural area provides for a reduction in the negative impacts from stormwater runoff through non-structural means. The combination of the structural BMPs described in division 3 with the non-structural natural area provisions described in this section allow the objectives of this article to be fulfilled.

(Ord. No. 3764, § 5(501), 11-26-2007)

Sec. 18-172. - General description.

Undisturbed natural area is required for all development unless mitigated. The percentage of natural area required depends on a project's built-upon area as described below. Natural area requirements can be met in stream or lake buffers, designated common areas or on individual lots for residential development (e.g., backyards, borders, etc.). Natural area requirements can be met in vegetated utility rights-of-way (including sewer, water, gas, etc.) at a ratio of one acre of right-of-way to one-fourth acre of natural area credit. Grass fields can be used to meet natural area requirements on a one-to-one ratio; however, the fields must be replanted in accordance with the tree planting provisions described in subsection 18-175(c). Natural area requirements can also be met in planting strips that are planted in trees in accordance with the city's tree ordinance, this article or other tree planting requirements for road rights-of-way at a ratio of one acre of planting strip to three-fourth acre of natural area credit. Natural area is preferred where it will provide maximum water quality benefit (i.e. around gullies and existing drainage areas, adjacent to streams and wetlands, around structural BMPs, etc.). Cluster provisions as well as tree and S.W.I.M. buffer ordinance incentives currently contained in the city's ordinances will continue to apply in the area designated to meet this natural area requirement.

(Ord. No. 3764, § 5(502), 11-26-2007)

Sec. 18-173. - Natural area criteria.

Natural Area requirements apply to projects as described below.

- (1) *Less than 24 percent built-upon area.* A project with less than 24 percent built-upon area

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shall include as natural area within the boundaries of the project a minimum of 25 percent of the project area.

(2) *Greater than or equal to 24 percent and less than 50 percent built-upon area.* A project with greater than or equal to 24 percent and less than 50 percent built-upon area shall include as natural area within the boundaries of the project a minimum of 17.5 percent of the project area.

(3) *Greater than or equal to 50 percent built-upon area.* A project with greater than or equal to 50 percent built-upon area shall include as natural area space within the boundaries of the project a minimum of ten percent of the project area.

(4) *I-1 and I-2 development and redevelopment projects.* I-1 and I-2 zoned developments are exempt from the open space requirement in the Central and Western Catawba Districts.

(Ord. No. 3764, § 5(503), 11-26-2007)

Editor's note— Ord. No. 3764, § 5(503), adopted November 26, 2007, enacted provisions intended for use as subsections (A)—(D). To preserve the style of this Code, and at the discretion of the editor, said provisions have been redesignated as subsections (1)—(4).

Sec. 18-174. - Natural area designation.

For natural area areas that have remained undisturbed, the location of this area shall be recorded at the register of deeds office as "undisturbed natural area." For natural area areas that have been disturbed and revegetated, the location of this area shall be recorded at the register of deeds office as "revegetated natural area." The future disturbance of these areas is prohibited except for greenway trails with unlimited public access, private trails provided they are composed of pervious materials and comply with the S.W.I.M. stream buffer requirements, Charlotte-Mecklenburg Utility lines and channel work/maintenance activities by Charlotte-Mecklenburg stormwater services. Other utility work may be allowed in the natural area areas provided it will not result in loss of natural area as approved by the city.

(Ord. No. 3764, § 5(504), 11-26-2007)

Sec. 18-175. - Natural area mitigation.

(a) *Purpose.* The purpose of this mitigation is to reduce the cost of complying with the natural area requirement while ensuring the reduction of pollution loads and achievement of the article objectives.

(b) *General description.* Approved disturbance to the natural area described in section 18-173 must be off-set by an allowable form of mitigation, including on-site and off-site mitigation as well as through payment-in-lieu.

(c) *Natural area mitigation criteria.*

(1) *On-site mitigation.* On-site mitigation shall allow the disturbance of designated natural area on a project with the fulfillment of the following criteria on the project site:

a. Establishment of a minimum of six inches of top soil to the disturbed natural area following the completion of construction activities. This material may be obtained from on-site when available.

b. Planting of a minimum of 36 trees per acre of natural area as follows:

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1. Trees shall have a minimum caliper of one and one-half inches.
 2. Trees shall be of a quality set forth by the American Standard for Nursery Stock and will be selected from a list of acceptable native species for planting in natural area established by the jurisdiction.
 3. Planted trees shall contain a mix of at least three different species in roughly equal proportions and be "large mature shade tree species" as defined by the city.
 4. Trees shall be planted in accordance with specifications provided by the city.
 5. Trees shall be warranted for a minimum of two years following planting and any dead or diseased trees must be replaced.
- c. The area around and between trees must be stabilized using an approved vegetative ground cover and mulch.
- d. The slope of any graded or disturbed area that is dedicated for natural area can not exceed 3 to 1.
- e. The flow of water across the natural area must be controlled to prevent soil erosion or mulch disturbance.
- (2) *Off-site mitigation.* The city shall allow natural area disturbance and off-site mitigation through the acceptance for ownership or conservation easement properties for the protection of natural area. This off-site mitigation shall be located in the same delineated watershed as the project site. There are 20 delineated watershed districts used for mitigation purposes as follows: Sugar/Irwin, Little Sugar/Briar, McMullen, McAlpine, Four Mile, Six Mile, Stevens/Goose, Clear, McKee, Reedy, Back, Mallard, Clarks, Rocky River, McDowell, Gar, Long, Paw, Steele, Beaver Dam, and Stowe Branch. In the event property for purchase cannot be located within the same watershed district, the city shall designate an alternate watershed where there will be a net improvement in water quality protection such as designated impaired watersheds.
- (3) *Payment in lieu of natural area dedication.* Payment in lieu of natural area dedication is only allowed for commercial development and multi-family development projects that are in excess of 50 percent built upon area. Payment in lieu shall only be allowed to the extent an approved disturbance cannot be offset by on-site mitigation as determined by the stormwater administrator. The following criteria shall be fulfilled for the payment in lieu option:
- a. A fee shall be paid to the city where the property is located or its designee based on the following formula: $1.25 \times$ (appraised value of subject property including intended use without improvements). The appraised value of the subject property shall be determined by a licensed, independent real estate appraiser retained by the developer or owner. The jurisdiction may accept the appraised value or at its discretion obtain its own appraisal. In the event the parties cannot agree on the appraised value, the two appraised values shall be averaged together to determine the final appraised value to be used in the formula above.
 - b. Payment shall be accepted by the city or its designee prior to land disturbing activities.
 - c. The city shall use the payment-in-lieu to purchase natural area in the same delineated watershed as the property to be disturbed. The 20 delineated watershed districts used for mitigation purposes are described in subsection (c)(2). As an option, the city may elect to use

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up to ten percent of the fee to purchase and plant trees within the city.

(d) *Approval criteria for natural area mitigation.*

(1) *Application for natural area mitigation.* The stormwater administrator shall receive, review, approve, disapprove or approve with conditions an "application for natural area mitigation." The stormwater administrator shall design this application to include all pertinent information, including at a minimum a "mitigation plan" describing the desired mitigation option as discussed in previous sections. An application for on-site mitigation shall show the location of the restored natural area on the property and the location, type and size of all trees and ground cover to be planted as well as contain a warranty statement for the trees. An off-site mitigation application shall show the location and description including acreage, etc. of the property to be used for mitigation and contain a legally valid instrument demonstrating that the applicant has legal title to the property for transfer to the city a payment in lieu application shall at a minimum contain the location and description of the site to be mitigated and an approved appraisal by a licensed, independent real estate appraiser.

(2) *Pre-approved natural area mitigation.* The following is pre-approved for on-site mitigation and does not require the submittal of an application to the stormwater administrator; however, these mitigation areas shall be described on the stormwater management permit application:

Residential, commercial and multifamily uses: Forty percent of the required natural area as described in section 18-173 is pre-approved for on-site mitigation. Other forms of mitigation as described above must receive approval from the stormwater administrator.

(e) *Natural area designation.* All designated natural area areas included as part of an approved mitigation must be recorded at the register of deeds office. For off-site mitigation and payment in lieu where natural area remains undisturbed, the location of this area shall be recorded at the register of deeds office as "undisturbed natural area." For natural area areas that have been disturbed and revegetated, the location of this area shall be recorded at the register of deeds office as "revegetated natural area." The future disturbance of these areas shall be in accordance with ordinance requirements, which allow for disturbances associated with the installation of greenway trails with unlimited public access, private trails provided they are composed of pervious materials and comply with S.W.I.M. stream buffer requirements, Charlotte-Mecklenburg Utility lines and channel work/maintenance activities by Charlotte-Mecklenburg stormwater services. Other utility work may be allowed in the natural area provided it will not result in loss of natural area as approved by the city.

(Ord. No. 3764, § 5(505), 11-26-2007)

Secs. 18-176—18-190. - Reserved.

DIVISION 6. - MAINTENANCE

[Sec. 18-191. - Dedication of BMPs, facilities and improvements.](#)

[Sec. 18-192. - Operation and maintenance agreement.](#)

[Sec. 18-193. - Inspection program.](#)

[Sec. 18-194. - Performance security for installation and maintenance.](#)

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[Sec. 18-196. - Maintenance easement.](#)
[Secs. 18-197—18-210. - Reserved.](#)

Sec. 18-191. - Dedication of BMPs, facilities and improvements.

(a) *Single-family residential BMPs accepted for maintenance.* The city shall accept maintenance responsibility (as specified in the administrative manual) of structural BMPs that are installed pursuant to this article following a warranty period of two years from the date of as-built certification described in section 18-123, provided the BMP:

- (1) Only serves a single-family detached residential site or townhomes all of which have public street frontage;
- (2) Is satisfactorily maintained during the two-year warranty period by the owner or designee;
- (3) Meets all the requirements of this article and the design manual; and
- (4) Includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection, maintenance, repair or reconstruction.

The stormwater administrator must receive an application for transfer of maintenance responsibilities for the structural BMP along with the stormwater management permit application. The stormwater administrator will develop and distribute this application as a component of the administrative manual (see subsection 18-122).

(b) *Maintenance and operation of BMPs.* The owner of a structural BMP installed pursuant to this article and not covered under subsection (a) shall maintain and operate the BMP so as to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the structural BMP was designed.

(c) *Damage or removal of trees.* The following provisions apply to trees contained in permitted natural area areas or in BMPs that are damaged or removed:

- (1) For trees damaged or removed due to natural disasters, the owner shall be required to replace the trees in accordance with the natural area mitigation criteria described in subsection 18-175(c)(1) within a timeframe specified by the stormwater administrator.
- (2) For trees damaged or removed due to reasons other than subsection (c)(1), the owner shall be required to replace the trees in accordance with the natural area mitigation criteria described in subsection 18-175(c)(1) within a timeframe specified by the stormwater administrator with the following exception, the trees shall be replaced at twice the specified density. In addition, the owner may be subject to fines as described in division 7.

(d) *Annual maintenance inspection and report.* The person responsible for maintenance of any BMP installed pursuant to this article and not covered under subsection (a) shall submit to the stormwater administrator an inspection report from a qualified registered state professional engineer or registered landscape architect performing services only in their area of competence. All inspection reports shall be on forms supplied by the stormwater administrator that are contained in the administrative manual. An original inspection report shall be provided to the stormwater administrator beginning one year from the date of as-built certification and each year thereafter on or before the anniversary date of the as-built certification.

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(Ord. No. 3764, § 6(601), 11-26-2007)

Sec. 18-192. - Operation and maintenance agreement.

(a) *General.* At the time that as-built plans are provided to the stormwater administrator as described in section 18-123 and prior to final approval of a project for compliance with this article, but in all cases prior to placing the BMPs in service, the applicant or owner of the site must execute an operation and maintenance agreement that shall be binding on all current and subsequent owners of the site, portions of the site, and lots or parcels served by the structural BMP. Failure to execute an operation and maintenance agreement within the time frame specified by the stormwater administrator may result in assessment of penalties as specified in division 7. Until the transference of all property, sites, or lots served by the structural BMP, the original owner or applicant shall have primary responsibility for carrying out the provisions of the maintenance agreement. At the discretion of the stormwater administrator, certificates of occupancy may be withheld pending receipt of an operation and maintenance agreement.

The operation and maintenance agreement shall require the owner or owners to maintain, repair and, if necessary, reconstruct the structural BMP, and shall state the terms, conditions, and schedule of maintenance for the structural BMP. In addition, it shall grant to the city a right of entry in the event that the stormwater administrator has reason to believe it has become necessary to inspect, monitor, maintain, repair, or reconstruct the structural BMP; however, in no case shall the right of entry, of itself, confer an obligation on the city to assume responsibility for the structural BMP.

Standard operation and maintenance agreements for BMPs shall be developed by the stormwater administrator and made available in the administrative manual. The operation and maintenance agreement must be approved by the stormwater administrator prior to plan approval, and it shall be referenced on the final plat as described in section 18-148.

(b) *Special requirement for homeowners' and other associations.* For all structural BMPs required pursuant to this article not covered under subsection 18-192(a), and that are to be or are owned and maintained by a homeowners' association, property owners' association, or similar entity, the required operation and maintenance agreement shall include the provisions described in the design manual.

(Ord. No. 3764, § 6(602), 11-26-2007)

Sec. 18-193. - Inspection program.

Inspections and inspection programs by the city may be conducted or established on any reasonable basis, including but not limited to routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in BMPs; and evaluating the condition of BMPs.

If the owner or occupant of any property refuses to permit such inspection, the stormwater administrator shall proceed to obtain an administrative search warrant pursuant to G.S. 15-27.2 or its successor. No person shall obstruct, hamper or interfere with the stormwater administrator while carrying out his or her official duties.

(Ord. No. 3764, § 6(603), 11-26-2007)

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Sec. 18-194. - Performance security for installation and maintenance.

The city may require the submittal of a performance security or bond with surety, cash escrow, letter of credit or other acceptable legal arrangement prior to issuance of a permit in accordance with the provisions contained in the administrative manual.

(Ord. No. 3764, § 6(604), 11-26-2007)

Sec. 18-195. - Records of installation and maintenance activities.

The owner of each structural BMP shall keep records of inspections, maintenance, and repairs for at least five years from the date of creation of the record and shall submit the same upon reasonable request to the stormwater administrator.

(Ord. No. 3764, § 6(605), 11-26-2007)

Sec. 18-196. - Maintenance easement.

Every structural BMP installed pursuant to this article shall be made accessible for adequate inspection, maintenance, reconstruction and repair by a maintenance easement, which will be shown and labeled on all plans and plats. The easement shall be recorded to provided adequate and perpetual access and sufficient area, in favor of the city or otherwise, for inspection, maintenance, repair or reconstruction. All BMPs that are not located adjacent to a public right-of-way will require the owner to provide a 20-foot wide access easement in favor of the city that connects the BMP area to the public right-of-way. The easement shall be described on all plans and plats as follows: "The purpose of the Post Construction Controls Easement (PCCE) is to provide stormwater conveyance and for the control and treatment of stormwater runoff. Buildings or any other objects which impede stormwater flow, system performance or system maintenance are prohibited. This easement also provides for unlimited access for inspection and maintenance purposes to be performed on the BMP as required by the City of Charlotte's Stormwater Ordinance Post Construction Controls Regulations." The easement shall be recorded as described in section 18-148 and its terms shall specify who may make use of the easement and for what purposes.

(Ord. No. 3764, § 6(606), 11-26-2007)

Secs. 18-197—18-210. - Reserved.

DIVISION 7. - VIOLATIONS AND ENFORCEMENT

[Sec. 18-211. - Enforcement—Inspections and investigations.](#)

[Sec. 18-212. - Violations and enforcement.](#)

[Sec. 18-213. - Remedies and penalties.](#)

Sec. 18-211. - Enforcement—Inspections and investigations.

(a) Authority to inspect and investigate. The stormwater administrator shall have the authority, upon presentation of proper credentials, to enter and inspect any land, building, structure, or premises to

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ensure compliance with this article, or rules or orders adopted or issued pursuant to this article, and to investigate to determine whether the activity is being conducted in accordance with this article and the approved stormwater management plan, design manual and administrative manual and whether the measures required in the plan are effective. The stormwater administrator shall also have the power to require written statements, or the filing of reports under oath as part of an investigation.

(b) No person shall resist, delay, obstruct, hamper or interfere with the stormwater administrator while the stormwater administrator is inspecting and/or investigating or attempting to inspect and/or investigate an activity under this article. The stormwater administrator, to the extent permitted by law, may seek the issuance of a search warrant to determine compliance with this article.

(c) Inspection and/or investigation frequency. The inspections and investigations outlined above in subsection (a) may be conducted or established on any reasonable basis, including but not limited to: routine inspections and/or investigations; random inspections and/or investigations; inspections and/or investigations based upon complaints or other notice of possible violations; and joint inspections and/or investigations with other agencies inspecting and/or investigations under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in BMPs; and evaluating the condition of BMPs.

(Ord. No. 3764, § 7(701), 11-26-2007)

Editor's note— Ord. No. 3764, § 7(701), adopted November 26, 2007, enacted provisions intended for use as subsections (A)(1)—(3). To preserve the style of this Code, and at the discretion of the editor, said provisions have been redesignated as subsections (a)—(c).

Sec. 18-212. - Violations and enforcement.

(a) *Violation unlawful.* Any failure to comply with an applicable requirement, prohibition, standard, or limitation imposed by this article, or the terms or conditions of any permit or other development or redevelopment approval or authorization granted pursuant to this article, is unlawful and shall constitute a violation of this article.

(b) *Responsible persons/entities.* Any person who erects, constructs, reconstructs, alters (whether actively or passively), or fails to erect, construct, reconstruct, alter, repair or maintain any structure, BMP, practice, or condition in violation of this article, as well as any person who participates in, assists, directs, creates, causes, or maintains a condition that results in or constitutes a violation of this article, or fails to take appropriate action, so that a violation of this article results or persists; or an owner, any tenant or occupant, or any other person, who has control over, or responsibility for, the use, development or redevelopment of the property on which the violation occurs shall be subject to the remedies, penalties, and/or enforcement actions in accordance with this section. For the purposes of this article, responsible person(s) shall include but not be limited to:

(1) *Person maintaining condition resulting in or constituting violation.* Any person who participates in, assists, directs, creates, causes, or maintains a condition that constitutes a violation of this article, or fails to take appropriate action, so that a violation of this article results or persists.

(2) *Responsibility for land or use of land.* The owner of the land on which the violation occurs, any tenant or occupant of the property, any person who is responsible for stormwater controls or practices pursuant to a private agreement or public document, or any person, who has control

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over, or responsibility for, the use, development or redevelopment of the property.

(c) *Notice of violation and order to correct.* If, through inspection and/or investigation, it is found that any building, structure, or land is in violation of this article, the stormwater administrator shall notify in writing the responsible person/entity. The notice may be served by any means authorized under G.S. 1A-1, rule 4, or other means reasonably calculated to give actual notice. The notification shall indicate the nature of the violation, contain the address or other description of the site upon which the violation occurred or is occurring, order the necessary action to abate the violation, and give a deadline for correcting the violation. The notice shall, if required, specify a date by which the responsible person/entity must comply with this article, and advise that the responsible person/entity is subject to remedies and/or penalties or that failure to correct the violation within the time specified will subject the responsible person/entity to remedies and/or penalties as described in section 18-213. In determining the measures required and the time for achieving compliance, the stormwater administrator shall take into consideration the technology and quantity of work required, and shall set reasonable and attainable time limits.

If a violation is not corrected within a reasonable period of time, as provided in the notification, the stormwater administrator may take appropriate action, as provided in section 18-213, to correct and abate the violation and to ensure compliance with this article.

(d) *Extension of time.* A responsible person/entity who receives a notice of violation and correction order, or the owner of the land on which the violation occurs, may submit to the stormwater administrator a written request for an extension of time for correction of the violation. On determining that the request includes enough information to show that the violation cannot be corrected within the specified time limit for reasons beyond the control of the responsible person/entity requesting the extension, the stormwater administrator may extend the time limit as is reasonably necessary to allow timely correction of the violation, up to, but not exceeding 60 days. The stormwater administrator may grant 30 day extensions in addition to the foregoing extension if the violation cannot be corrected within the permitted time due to circumstances beyond the control of the responsible person/entity violating this article. The stormwater administrator may grant an extension only by written notice of extension. The notice of extension shall state the date prior to which correction must be made, after which the violator will be subject to the penalties described in the notice of violation and correction order.

(e) *Emergency enforcement.* If a violation seriously threatens the effective enforcement of this article or poses an immediate danger to the public health, safety, or welfare or the environment, then the stormwater administrator may order the immediate cessation of a violation. Any person so ordered shall cease any violation immediately. The stormwater administrator may seek immediate enforcement, without prior written notice, through any remedy or penalty specified in section 18-213

(Ord. No. 3764, § 7(702), 11-26-2007)

Sec. 18-213. - Remedies and penalties.

(a) *Civil penalties.* Any person who violates any of the provisions of this article or rules or other orders adopted or issued pursuant to this article may be subject to a civil penalty. A civil penalty may be assessed from the date the violation occurs. The stormwater administrator shall determine the amount of the civil penalty and shall notify the violator of the amount of the penalty and the reason for assessing the penalty. No penalty shall be assessed until the person alleged to be in violation has been notified of the violation except as provided in subsection 18-212(d) in which case the penalty is assessed concurrently with a notice of violation. Refusal to accept the notice or failure to notify the

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stormwater administrator of a change of address shall not relieve the violator's obligation to comply with the article or to pay such a penalty.

(b) *Each day a separate offense.* Each day that a violation continues shall constitute a separate and distinct violation or offense.

(c) *Penalties assessed concurrent with notice of violation.* Penalties may be assessed concurrently with a notice of violation for any of the following, in which case the notice of violation shall also contain a statement of the civil penalties to be assessed, the time of their accrual, and the time within which they must be paid or be subject to collection as a debt:

- (1) Failure to submit a stormwater management plan;
- (2) Performing activities without an approved stormwater management plan;
- (3) Obstructing, hampering or interfering with an authorized representative who is in the process of carrying out official duties;
- (4) A repeated violation for which a notice was previously given on the same project and to the same responsible person/entity responsible for the violation;
- (5) Willful violation of this article; and
- (6) Failure to install or maintain best management practices per the approved plan.

(d) *Amount of penalty.* The civil penalty for each violation of this article may be up to the maximum allowed by law. In determining the amount of the civil penalty, the stormwater administrator shall consider any relevant mitigating and aggravating factors including, but not limited to, the effect, if any: of the violation; the degree and extent of harm caused by the violation; the cost of rectifying the damage; whether the violator saved money through noncompliance; whether the violator took reasonable measures to comply with this article; whether the violation was committed willfully; whether the violator reported the violation to the stormwater administrator; and the prior record of the violator in complying or failing to comply with this article or any other post-construction ordinance or law.

(e) *Failure to pay civil penalty assessment.* If a violator does not pay a civil penalty assessed by the stormwater administrator within 30 days after it is due, or does not request a hearing as provided in subsection (c), the stormwater administrator shall request the initiation of a civil action to recover the amount of the assessment. The civil action shall be brought in Mecklenburg County superior court or in any other court of competent jurisdiction. A civil action must be filed within three years of the date the assessment was due. An assessment that is appealed is due at the conclusion of the administrative and judicial review of the assessment.

(f) *Appeal of remedy or penalty.* The issuance of an order of restoration and/or notice of assessment of a civil penalty by the stormwater administrator shall entitle the responsible party or entity to an appeal before the stormwater advisory committee (SWAC) if such person submits written demand for an appeal hearing to the clerk of SWAC within 30 days of the receipt of an order of restoration and/or notice of assessment of a civil penalty. The demand for an appeal shall be accompanied by a filing fee as established by SWAC. The appeal of an order of restoration and/or notice of assessment of a civil penalty shall be conducted as described in section 18-124

(g) *Additional remedies.*

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(1) *Withholding of certificate of occupancy.* The stormwater administrator or other authorized agent may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site and served by the stormwater practices in question until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.

(2) *Disapproval of subsequent permits and plan approvals.* As long as a violation of this article continues and remains uncorrected, the stormwater administrator or other authorized agent may withhold, and the stormwater administrator may disapprove, any request for permit or plan approval or authorization provided for by this article or the zoning, subdivision, and/or building regulations, as appropriate for the land on which the violation occurs.

(3) *Injunction, abatements, etc.* The stormwater administrator, with the written authorization of the city manager, may institute an action in a court of competent jurisdiction for a mandatory or prohibitory injunction and order of abatement to correct a violation of this article. Any person violating this article shall be subject to the full range of equitable remedies provided in the general statutes or at common law.

(4) *Correction as public health nuisance, costs as lien, etc.* If the violation is deemed dangerous or prejudicial to the public health or public safety and is within the geographic limits prescribed by G.S. 160A-193, the stormwater administrator, with the written authorization of the city manager, may cause the violation to be corrected and the costs to be assessed as a lien against the property.

(5) *Restoration of areas affected by failure to comply.* By issuance of an order of restoration, the stormwater administrator may require a person who engaged in a land disturbing activity and failed to comply with this article to restore the waters and land affected by such failure so as to minimize the detrimental effects of the resulting pollution. This authority is in addition to any other civil penalty or injunctive relief authorized under this article.

(h) *Criminal penalties.* Violation of this article may be enforced as a misdemeanor subject to the maximum fine permissible under state law.

(Ord. No. 3764, § 7(703), 11-26-2007)

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⁽⁸⁰⁾ **Editor's note**— Ord. No. 10-06, § 1, adopted July 13, 2010, amended the Code by repealing former Ch. 3, §§ 6-8-301—6-8-307, and adding a new Ch. 3 to read as herein set out. Former Ch. 3 pertained to similar subject matter, and derived from Ord. No. 03-16, adopted June 10, 2003.

[Sec. 6-8-301. - Definitions.](#)

[Sec. 6-8-302. - Prohibition on illicit connections and prohibited discharges.](#)

[Sec. 6-8-303. - Control of stormwater/urban runoff.](#)

[Sec. 6-8-304. - Inspections.](#)

[Sec. 6-8-305. - Enforcement](#)

[Sec. 6-8-306. - Interagency cooperation.](#)

[Sec. 6-8-307. - Compliance with chapter is not compliance with other laws.](#)

Sec. 6-8-301. - Definitions.

The following terms, as used in this chapter, shall, unless the text clearly indicates otherwise, have the respective meanings herein set forth:

Authorized inspector shall mean the Chief Building Official, City Manager, or Director of Community Development, and persons designated and under the instruction and supervision of any of them, who are assigned to investigate compliance and detect violations of this chapter.

Best management practices shall mean schedules of activities, pollution treatment practices or devices, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices or devices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or the stormwater drainage system. Best management practices also include but are not limited to treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage. Best management practices may include any type of pollution prevention and pollution control measure that can help to achieve compliance with this chapter.

BMPs shall mean best management practices.

City shall mean the City of Irvine, Orange County, California.

Co-permittee shall mean the County of Orange, the Orange County Flood Control District, and/or any one of the 26 municipalities, including the City of Irvine, under the jurisdiction of the Regional Water Quality Control Board, Santa Ana Region, which are responsible for compliance with the terms of the NPDES permit.

DAMP shall mean the Orange County Drainage Area Management Plan, as the same may be amended from time to time. The Orange County Drainage Area Management Plan is available for review in the Chief Building Official's office at City Hall during normal working hours.

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Director shall mean the Director of Community Development or his or her designated representative.

Discharge shall mean any release, spill, leak, pump, flow, escape, leaching (including subsurface migration or deposition to groundwater), dumping or disposal of any liquid, semi-solid or solid substance.

Discharge exception shall mean the group of activities not restricted or prohibited by this chapter, including only:

1. Discharges composed entirely of stormwater,
2. Discharges that are permitted by EPA, the State Water Resources Control Board, and/or the Santa Ana Regional Water Quality Control Board, including discharges permitted under the NPDES Permit,
3. Landscape irrigation, lawn garden watering and other irrigation waters,
4. Air conditioning condensate,
5. Passive foundation drains,
6. Passive footing drains,
7. Water from crawl space pumps,
8. Dechlorinated swimming pool/spa discharges (cleaning wastewater and filter backwash discharges, however, are prohibited),
9. Noncommercial vehicle washing,
10. Diverted stream flows,
11. Rising groundwaters and natural springs,
12. Groundwater infiltration as defined in 40 CFR 35.2005(20) and uncontaminated pumped groundwater,
13. Flows from riparian habitats and wetlands,
14. Emergency fire fighting flows (i.e. flows necessary for the protection of life and property). Where reasonably feasible, however, and without interfering with health and safety, the use of BMPs should be considered,
15. Waters not otherwise containing wastes as defined in California Water Code section 13050(d), and
16. Other types of discharges identified and recommended by the permittees and approved by the Santa Ana Regional Water Quality Control Board.

The following discharges shall also be considered to be "discharge exceptions" where the stated conditions have been met:

1. For discharges outside the Newport Bay watershed the de minimus types of discharges listed

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in the Regional Board's General De Minimus Permit for Discharges to Surface Waters, Order No. R8-2009-0003, NPDES No. CAG 998001 (General De Minimus Permit), shall be in compliance with the terms and conditions of the General De Minimus Permit. Separate coverage under the General De Minimus Permit is not required. For discharges within the Newport Bay watershed, separate permit authorization for these de minimus discharges will be required when the discharges contain selenium, nitrogen or other pollutants at levels of concern as set forth in the General De Minimus Permit.

2. Discharges from potable water sources, including water line flushing, superchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water: Planned discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH adjusted if necessary, and volumetrically and velocity controlled to prevent causing hydrologic conditions of concern in receiving waters.

3. Discharges from lawn, greenbelt and median watering and other irrigation runoff from non-agricultural operations. All such discharges shall be minimized, however, through compliance with all applicable water efficiency landscape requirements.

4. Dechlorinated swimming pool discharges: Dechlorinated to a concentration of 0.1 ppm or less, pH adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent causing hydrologic conditions of concern in receiving waters. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the municipal separate storm sewer systems.

5. Construction dewatering wastes: The maximum daily concentration limit for total suspended solids shall not exceed 75 mg/l, sulfides 0.4 mg/l, oil and grease 15 mg/l, total petroleum hydrocarbons 0.1 mg/l.

6. Discharges from facilities that extract, treat and discharge water diverted from waters of the United States ("US"): These discharges shall meet the following conditions: (1) The discharges to waters of the US must not contain pollutants added by the treatment process or pollutants in greater concentration than the influent; (2) The discharge must not cause or contribute to a condition of erosion; (3) The extraction and treatment must be in compliance with Section 404 of the Clean Water Act; and (4) Monitoring is to be conducted in accordance with all applicable monitoring requirements imposed.

Domestic sewage exception shall mean discharges which are exceptions to this chapter and excluded from the definition of prohibited discharge, as defined herein, including only:

Discharges composed entirely of accidental spills of untreated sanitary wastes (commonly called domestic sewage) and other wastes, but limited solely to wastes that are controlled by and are within publicly owned wastewater treatment system collection facilities immediately prior to the accidental spill.

Effective date shall mean effective date of this chapter.

Enforcing attorney shall mean the City Attorney or District Attorney acting as counsel to the City of Irvine and his/her designee, which counsel is authorized to take enforcement action as described herein. For purposes of criminal prosecution, only the District Attorney and/or City Attorney shall act as the enforcing attorney.

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EPA shall mean the Environmental Protection Agency of the United States.

Hazardous material shall mean any substrate that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. The term "hazardous material" includes those materials designated by the United States Environmental Protection Agency to be reported if a designated quantity of the material is spilled into waters of the United States or is emitted into the environment.

Hearing officer shall mean the Director of Community Development or his/her designee, who shall preside at the administrative hearings authorized by this chapter and issue final decisions on the matters raised therein.

Hydrologic Conditions of Concern shall mean a change in land conditions that are anticipated to impact stream channels due to changes in runoff and sediment yield.

Illicit connection shall mean any man-made conveyance or drainage system, pipeline, conduit, inlet or outlet, through which the discharge of any pollutant to the stormwater drainage system occurs or may occur. The term "illicit connection" shall not include legal nonconforming connections or connections to the stormwater drainage system that are hereinafter authorized by the agency with jurisdiction over the system at the location at which the connection is made.

Invoice for costs shall mean the actual costs and expenses of the City incurred during any inspection conducted pursuant to section 6-8-304 of this chapter, where a notice of noncompliance, administrative compliance order or other enforcement option under section 6-8-305 of this chapter is utilized to obtain compliance with this chapter.

Legal nonconforming connection shall mean connections to the stormwater drainage system existing as of the enactment of this chapter that were in compliance with all federal, State and local rules, regulations, statutes and administrative requirements in effect at the time the connection was established, including but not limited to any discharge permitted pursuant to the terms and conditions of an individual discharge permit issued pursuant to sections 6-4-301 through 6-4-328 (Chapter 3. "Sewage Disposal") of this Code.

Local implementation plan shall mean the City's plan, as approved by the City Council and as may be amended from time to time, which details how the requisite stormwater programs within the DAMP are to be implemented within the City. The local implementation plan is available for review in the Chief Building Official's Office at City Hall during normal business hours.

Low Impact Development or LID shall mean a strategy for land development and redevelopment that seeks to mitigate the impacts of increases in pollution from stormwater/urban runoff. Low Impact Development (LID) involves site design approaches and best management techniques that promote the use of natural, structural and/or non-structural, systems for infiltration, evapotranspiration, reuse, and/or biotreatment of runoff.

Maximum extent practicable shall mean to the maximum extent feasible, taking into account considerations of synergistic, additive, and competing factors, including but not limited to, the gravity of the problem, technical feasibility, fiscal feasibility, public health risks, societal concerns, and social benefits.

New development shall mean all public and private residential (whether single family, multi-unit or planned unit development), industrial, commercial, retail, and other non-residential construction

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projects, or mass grading for future construction, for which either a discretionary land use permit or grading permit or building and safety permit is required.

NPDES permit shall mean the municipal discharge permit issued by the Santa Ana Regional Water Quality Control Board and entitled "Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and The Incorporated Cities of Orange County Within the Santa Ana Region Areawide Urban Stormwater Runoff Orange County Order No. R8-2009-0030 (NPDES No. CAS618030)" (the "Santa Ana Regional Water Quality Control Board Permit"). The Santa Ana Regional Board NPDES permit, as issued in 2009, but as it may be reissued in the future and/or as it may be amended from time to time, shall be referred to hereinafter as the "NPDES permit;"

Person shall mean any natural person as well as any corporation, partnership, government entity or subdivision, trust, estate, cooperative association, joint venture, business entity, or other similar entity, or the agent, employee or representative of any of the above.

Pollutant shall mean the following liquid, solid, or semi-solid substances, or combination thereof:

1. Artificial materials, chips or pieces of natural or manmade materials (such as floatable plastics, wood or metal shavings);
2. Household waste (such as trash, paper, plastics, lawn clippings and yard wastes; animal fecal materials; excessive pesticides, herbicides and fertilizers; used oil and fluids from vehicles, lawn mowers and other common household equipment);
3. Metals, such as cadmium, lead, zinc, copper, silver, nickel, chromium, and nonmetals, such as phosphorus and arsenic;
4. Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants and grease);
5. Excessive eroded soils, sediment and particulate materials;
6. Animal wastes (such as discharge from confinement facilities, kennels, pens and recreational facilities, including, stables, show facilities, or polo fields);
7. Substances having characteristics such as a pH less than 6.5 or greater than 8.5, or unusual coloration, or turbidity, or excessive levels of fecal coliform, fecal streptococcus or enterococcus;
8. Waste materials and wastewater generated on construction sites and by construction activities (such as painting, staining; use of sealants, glues, limes; excessive pesticides, fertilizers or herbicides; use of wood preservatives and solvents; disturbance of asbestos fibers, paint flakes or stucco fragments; applications of oils, lubricants, hydraulic, radiator or battery fluids; construction equipment washing, concrete pouring and cleanup wash water or use of concrete detergents; steam cleaning or sand blasting residues; use of chemical degreasing or diluting agents; and super chlorinated water generated by potable water line flushing);
9. Materials causing an increase in biochemical oxygen demand, chemical oxygen demand or total organic carbon;
10. Materials which contain base/neutral or acid extractive organic compounds;
11. Those pollutants defined in Title 33 U.S.C. section 1362(6) of the Federal Clean Water Act;

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12. Any other constituent or material that may interfere with or adversely affect the beneficial uses of the receiving waters, flora or fauna of the State.

The term "pollutant" shall not include uncontaminated stormwater, potable water or reclaimed water generated by a lawfully permitted water treatment facility.

Priority development project shall mean a new development or significant redevelopment project that falls within any of the following categories:

1. All significant redevelopment projects, where significant redevelopment is defined as projects that include the addition or replacement of 5,000 square feet or more of impervious surface on a developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Where redevelopment results in the addition or replacement of less than fifty percent of the impervious surfaces of a previously existing developed site, and the existing development was not subject to WQMP requirements, the numeric sizing criteria of required structural BMPs applies only to the addition or replacement, and not to the entire developed site. Where redevelopment results in the addition or replacement of more than fifty percent of the impervious surfaces of a previously existing developed site, the numeric sizing criteria of required structural BMPs applies to the entire development.
2. New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single family home subdivisions, multi-family attached subdivisions (town homes), condominiums, apartments, etc.), mixed-use, and public projects. This category includes development projects on public or private land, which fall under the planning and building authority of the City.
3. Automobile repair shops (with SIC codes 5013, 5014, 5541, 7532-7534, 7536-7539).
4. Restaurants (with SIC code 5812) where the land area of development is 5,000 square feet or more, including parking areas.
5. All hillside developments on 5,000 square feet or more, which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more.
6. Developments of 2,500 square feet or more of impervious surface or more adjacent to (within 200 feet) or discharging directly into environmentally sensitive areas, such as areas designated in the Ocean Plan and areas of special biological significance or waterbodies listed on the Clean Water Act section 303(d) list of impaired waters.
7. Parking lots of 5,000 square feet or more of impervious surface exposed to stormwater. Parking lot is defined as a land area or facility for the temporary storage of motor vehicles for the purpose of this section.
8. Streets, roads, highways and freeways of 5,000 square feet or more of paved surface shall incorporate USEPA guidance, "Managing Wet Weather with Green Infrastructure: Green Streets" in a manner consistent with the maximum extent practicable standard. This category includes any paved surface used for the transportation of automobiles, trucks, motorcycles and other vehicles and excludes any routine road maintenance activities where the footprint is not changed.

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9. Retail gasoline outlets of 5,000 or more square feet with a projected average daily traffic of 100 or more vehicles per day.
10. Emergency and public safety projects in any of the above-listed categories may be excluded if the delay caused due the requirement for a WQMP compromises public safety, public health and/or environmental protection.

Private property shall mean any real property, irrespective of ownership, which is not open to the general public.

Prohibited discharge shall mean any discharge, which is not composed entirely of stormwater and which contains any pollutant, from public or private property to:

1. The stormwater drainage system;
2. Any upstream flow, which is tributary to the stormwater drainage system;
3. Any groundwater, river, stream, creek, wash or dry weather arroyo, wetlands area, marsh, coastal slough, or
4. Any coastal harbor, bay or the Pacific Ocean.

The term "prohibited discharge" shall include but is not limited to discharges of sewage, wash water resulting from the hosing or cleaning of gas stations, auto repair garages, and other types of automobile service stations; discharges from the cleaning, repair, or maintenance of any type of equipment, machinery or facility, including motor vehicles, concrete mixing equipment, portable toilet servicing and related discharges; wash water for mobile auto detailing and washing, steam and pressure cleaning, carpet cleaning, and other such mobile commercial industrial activities; water from cleaning of municipal, industrial, and commercial sites, including parking lots, streets, sidewalks, driveways, patios, plazas, work yards towards an outdoor eating or drinking areas and related areas; runoff from material storage areas or uncovered receptacles that contain chemicals, fuels, grease, oil, or other hazardous materials; discharges of runoff from the washing of toxic materials from paved or unpaved areas; discharges of pool or fountain water containing chlorine, biocides, or other chemicals, including pool filter backwash containing debris and chlorine; pet waste, yard waste, litter, debris and settlement and related debris; and restaurant or food processing facility wastes such as grease, floor mat and trash bin wash waters, food waste and similar waste.

The term "prohibited discharge" shall not include:

1. Discharges occurring in compliance with the NPDES permit;
2. Discharges occurring pursuant to a State general permit, or any regional water quality control board, State Water Resources Control Board or U.S. Environmental Protection Agency issued permit or permit waiver;
3. Discharges allowable under the discharge exception, or
4. Discharges allowable under the domestic sewage exception.

Receiving waters shall mean all waters that are "waters of the State" within the scope of the California Water Code, including but not limited to natural streams, creeks, rivers, reservoirs, lakes, ponds, water in vernal pools, lagoons, estuaries, bays, the Pacific Ocean, and groundwater.

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Responsible party shall mean the person(s) identified in and responsible for compliance with the provisions of a WQMP approved by the City's Community Development Department.

Significant redevelopment shall mean the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site, including adding additional buildings and/or structures, the extension of the existing footprints of the building, as well as the construction of parking lots, and any private residential (whether single-family, multi-unit or planned unit development), industrial, commercial, retail or other non-residential development, including those significant redevelopment projects undertaken within an existing priority development project.

State general permit shall mean the operative State general industrial stormwater permit or the operative State general construction permit, and the terms and requirements of either or both. In the event EPA revokes the in-lieu permitting authority of the State Water Resources Control Board, then the term "State general permit" shall also refer to any EPA administered stormwater control program for industrial and construction activities.

Stormwater shall mean "storm water" as defined in the federal regulations to the Clean Water Act, 40 CFR 122.26(b)(13), *i.e.*, all "storm water runoff, snow melt runoff and surface runoff and drainage."

Stormwater drainage system shall mean street gutter, channel, storm drain, constructed drain, lined diversion structure, wash area, inlet, outlet or other facility, which is a part of or tributary to the County-wide stormwater runoff system and owned, operated, maintained or controlled by County of Orange, the Orange County Flood Control District or any co-permittee city, and used for the purpose of collecting, storing, transporting, or disposing of stormwater.

Toxic material shall mean any chemical or mixture that may present an unreasonable risk of injury to health or the environment.

Water quality management plan (WQMP) shall mean a water quality management plan as described in the City's local implementation plan and DAMP, that sets forth proposed BMPs to be developed to control pollutants in stormwater and urban runoff from a new development or significant redevelopment project. The plan may include pollution prevention via site design and routine source control measures to reduce the discharge of pollutants and prevent exceedances of water quality standards, to the maximum extent practicable.

Water quality standards shall mean those water quality objectives and designated beneficial use or uses (e.g., swimming, fishing, municipal drinking water supply, etc.) of the water body or bodies in issue, as adopted by the State Water Resources Control Board and the Santa Ana Regional Water Quality Control Board, and included as a part of the operative water quality control plan for the Santa Ana Region (also known as the "basin plan") and/or as a part of any State water quality control plan, such as the Ocean Plan.

(Ord. No. 10-06, § 1, 7-13-10)

Sec. 6-8-302. - Prohibition on illicit connections and prohibited discharges.

- A. Unless otherwise permitted by this chapter, no person shall:
1. Construct, maintain, operate and/or utilize in any way an illicit connection.
 2. Cause, allow facilitate, or contribute to any prohibited discharge.

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3. Act, cause, permit or require any agent, employee, or independent contractor, to construct, maintain, operate or utilize any illicit connection, or cause, allow or facilitate any prohibited discharge.
- B. No person shall cause, facilitate or contribute to a discharge into the stormwater drainage system, or into an area or in a manner that will result in a discharge into the stormwater drainage system of:
1. Any substance causing, or threatening to cause, a condition of pollution, contamination, or a nuisance, as that term is defined in section 13050 of the California Water Code.
 2. Any substance causing or contributing to an exceedance of any water quality standard for surface water or groundwater.
 3. Any substance containing pollutants which have not been reduced to the maximum extent practicable.
- C. Any owner and/or operator of an illicit connection shall immediately cause the connection to be removed and/or eliminated.
- D. The prohibitions set forth in this section against illicit connections shall apply irrespective of whether the illicit connection was established prior to the effective date; however, legal nonconforming connections shall not become illicit connections until the earlier of the following:
1. For all structural improvements to property installed for the purpose of discharge to the stormwater drainage system, the expiration of five years from the effective date.
 2. For all nonstructural improvements to property (including natural surface flow patterns, depressions or channels traversing one or more properties) existing for the purpose of discharge to the stormwater drainage system, the expiration of six months following delivery of a notice to the owner or occupant of the property, identifying the legal nonconforming connection.
- E. A civil or administrative violation of subsection 6-8-302.A. shall occur irrespective of the negligence or intent of the violator to construct, maintain, operate or utilize an illicit connection or to cause, allow or facilitate any prohibited discharge.
- F. If an Authorized Inspector reasonably determines that a discharge, which is otherwise within the discharge exception, may adversely affect the beneficial uses of receiving waters, then the Authorized Inspector may give written notice to the owner of the property or facility that the discharge exception shall not apply to the subject discharge following expiration of the 30-day period commencing upon delivery of the notice. Upon expiration of the 30-day period any such discharge shall constitute a violation of section 6-8-302.A. The notice of a legal nonconforming connection shall state the date of expiration of use under this chapter.
- G. The owner or occupant of property on which a legal nonconforming connection exists may request an administrative hearing, pursuant to the procedures set forth in subsections 6-8-305.A.6 to 10 for an extension of the period allowed for continued use of the connection. A reasonable extension of use may be authorized by an Authorized Inspector upon consideration of the following factors:
1. The potential adverse effects of the continued use of the connection upon the beneficial uses of receiving waters;
 2. The economic investment of the discharger in the legal nonconforming connection; and

3. The financial effect upon the discharger of a termination of the legal nonconforming connection.

(Ord. No. 10-06, § 1, 7-13-10)

Sec. 6-8-303. - Control of stormwater/urban runoff.

A. *New development and significant redevelopment.*

1. A water quality management plan (WQMP) is required if a project is a priority project, or if approval of the project requires discretionary action involving approval of a precise plan, or if the project involves a nonresidential plumbing permit for work with the potential to impact water quality. All new development and significant redevelopment projects within the City of Irvine, including but not limited to those considered to be priority development projects, shall be undertaken in accordance with:

- a. A WQMP prepared in accordance with the drainage area management plan (DAMP) and the City's local implementation plan; and
- b. Any conditions and requirements established by the Community Development Department of the City, which are reasonably related to the reduction or elimination of pollutants in runoff from the project site.

2. The City shall require project applicants to submit a WQMP at one or both of the following points in the project planning and permitting process:

- a. During the discretionary approval process (land use permit) of a proposed project, when the City must exercise judgment or deliberation in order to approve or disapprove a new development or significant redevelopment project, or
- b. During the ministerial approval process of issuing a grading, building, demolition, or similar "construction" permits in which only fixed standards or objective measures are applied.

WQMPs submitted during the discretionary approval process may be conceptual or preliminary with final WQMPs submitted during the ministerial permit process. Projects subject to the regional program (described in section A-7 of the City's local implementation plan) may rely upon the regional plan at the discretionary process.

3. Compliance with the conditions and requirements of any WQMP shall not exempt any person from the requirement to independently comply with each provision of this chapter.

4. The WQMP shall require Low Impact Development (LID) BMPs to address the design capture volume as detailed in the City's local implementation plan and the DAMP.

5. The WQMP shall evaluate and address hydrologic conditions of concern based on two-year frequency storm event as detailed in the City's local implementation plan and DAMP.

6. The above requirements in subsections 6-8-303 A. 4 and 6-8-303 A. 5 for Low Impact Development BMPs and hydrologic conditions of concern are not applicable to projects that have a WQMP approved by the City within 90 days from date of approval of the revised model WQMP (as provided for under the NPDES permit).

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7. Each WQMP shall name a responsible party for the project.

8. The owner of the property of the new development or significant redevelopment project, their successors and assigns, and each named responsible party, shall be responsible for the implementation and adherence to the terms, conditions and requirements of the approved WQMP. Each failure by the owner of the property, their successors or assigns, or a named responsible party, to implement and adhere to the terms, conditions and requirements of an approved WQMP shall constitute a separate violation of this chapter.

9. The City's Community Development Department, Building and Safety Division, may require that the WQMP be recorded with the County Recorder's office by the property owner. If such a recorded document is required by the City, the signature of the owner of the property, any successive owner or the named responsible party shall be sufficient for the recording of the plan or any revised plan, and a signature on behalf of the City shall not be required for recordation.

B. *Cost recovery.* The costs and expenses of the City incurred in the review, approval, or revision of any WQMP shall be assessed to the property owner or responsible party and shall be due and payable to the City. The City may elect to require a deposit of estimated costs and expenses, and the actual costs and expenses shall be deducted from the deposit, and the balance, if any, refunded to the property owner or responsible party.

C. *Litter control.* No person shall discard any waste material, including but not limited to common household rubbish or garbage of any kind (whether generated or accumulated at a residence, business or other location), upon any public or private property, whether occupied, open or vacant, including but not limited to any street, sidewalk, alley, right-of-way, open area or point of entry to the stormwater drainage system. Every person occupying or having charge and control of private property on which a prohibited disposal of waste materials occurs shall cause the proper collection and disposal of same.

A prohibited disposal of waste materials creates a danger to public health, safety and welfare, and otherwise threatens the environment, surface waters and groundwater; therefore, any owner or occupant of private property who fails to remove waste material within a reasonable time may be charged with creating a nuisance upon the property and the nuisance may be abated in accordance with section 6-8-305.B. et seq. of this chapter.

D. *Inspections of construction sites.* As a condition to any construction or grading permit that may be issued within the City, and in order to ensure compliance with the terms of this chapter and any applicable permit or license for runoff or the discharge of any "waste" (as such term is defined in the California Water Code section 13050) and further, as may be necessary to ensure compliance with any WQMP or condition of any building or grading permit, the City may conduct inspections as necessary to ensure compliance with all such requirements.

E. *Building, construction and grading permits.* Prior to the issuance of any building, construction, or grading permit, the Authorized Inspector may require, as a condition to any such permit, the implementation of appropriate BMPs to ensure that the discharge of pollutants from any such site will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of water quality standards. BMP selection and implementation shall be in accordance with the City's local implementation plan, and shall be incorporated into the project plans and specifications to the satisfaction of the Authorized Inspector. All construction and grading activities shall comply with applicable laws, including all applicable State issued NPDES permits, the terms of this chapter, all applicable City codes, and the applicable requirements of the NPDES permit.

(Ord. No. 10-06, § 1, 7-13-10)

Sec. 6-8-304. - Inspections.

A. *Right to inspect.* Except where exigent circumstances require immediate entry, prior to commencing any inspection as herein below authorized, the Authorized Inspector shall obtain either the consent of the owner or occupant of the private property or shall obtain an administrative inspection warrant or criminal search warrant.

B. *Entry to inspect.* The Authorized Inspector may enter private property to investigate the source of any discharge or potential discharge to any public street, inlet, gutter, storm drain or to the stormwater drainage system located within the jurisdiction of the City of Irvine.

C. *Compliance assessments.* The Authorized Inspector may inspect private property for the purpose of verifying compliance with this chapter and/or the terms of any applicable permit for runoff or the discharge of waste (as such term is defined under California Water Code section 13050), including by not limited to:

1. Identifying products produced, processes conducted, chemicals used and materials stored on or contained with the property;
2. Identifying point(s) of discharge of all wastewater, process water systems and pollutants;
3. Investigating the natural slope at the location, including drainage patterns and manmade conveyance systems;
4. Establishing the location of all points of discharge from the private property, whether by surface runoff or through a storm drain system;
5. Locating any illicit connection or the source of any prohibited discharge;
6. Evaluating compliance with any WQMP;
7. Investigating the condition of any legal nonconforming connection.

D. *Portable equipment.* For purposes of verifying compliance with this chapter, an Authorized Inspector may inspect any vehicle, truck, trailer, tank truck or other mobile equipment.

E. *Records review.* The Authorized Inspector may inspect all records of the owner or occupant of private property relating to chemicals or processes presently or previously stored or occurring on-site, including material and/or chemical inventories, facilities maps or schematics and diagrams, material safety data sheets, hazardous waste manifests, business plans, pollution prevention plans, State general permits, stormwater pollution prevention plans (SWPPPs), monitoring program plans and any other record(s) relating to illicit connections, prohibited discharges, legal nonconforming connections, or any other source of contribution or potential contribution of pollutants to the stormwater drainage system.

F. *Sample and test.* The Authorized Inspector may inspect, sample and test any area runoff, soils area (including groundwater testing), process discharge, materials within any waste storage area (including any container contents), and/or treatment system discharge for the purpose of determining the potential for contribution of pollutants to the stormwater drainage system. The Authorized Inspector may investigate the integrity of all storm drain and sanitary sewer systems, and legal nonconforming

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connections, or other pipelines on the property using appropriate tests, including but not limited to smoke and dye tests or video surveys. The Authorized Inspector may take photographs or videotape, make measurements or drawings, and create any other record reasonably necessary to document conditions on the property.

G. *Monitoring.* The Authorized Inspector may erect and maintain monitoring devices for the purpose of measuring any discharge or potential source of discharge to the stormwater drainage system.

H. *Test results.* The owner or occupant of property subject to inspection shall, on submission of a written request, receive copies of all monitoring and test results conducted by the Authorized Inspector.

I. *Inspection fees.* Each owner or occupant of property shall reimburse the City for all reasonable inspection fees and costs incurred by the City, in accordance with the fee schedule as may be adopted from time to time by the City Council.

(Ord. No. 10-06, § 1, 7-13-10)

Sec. 6-8-305. - Enforcement

A. *Administrative remedies.*

1. *Notice of noncompliance.* The Authorized Inspector may deliver to the owner or occupant of any private property, or to any person responsible for an illicit connection, prohibited discharge, or other violations of this chapter a notice of noncompliance. The notice of noncompliance shall be delivered in accordance with subsection 6-8-305.A.5.

a. The notice of noncompliance shall identify the violation(s) of this chapter, the applicable WQMP, or permit which has occurred. The notice of noncompliance shall state that continued noncompliance may result in additional enforcement actions against the owner, occupant, and/or person.

b. The notice of noncompliance shall state a compliance date that must be met by the owner, occupant, and/or responsible person; provided, however, that the compliance date may not exceed 90 days unless the Authorized Inspector extends the compliance deadline an additional reasonable period of time, under the circumstances, where good cause exists for the extension.

2. *Administrative compliance orders.*

a. The Authorized Inspector may issue an administrative compliance order. The administrative compliance order shall be delivered in accordance with subsection 6-8-305.A.5. of this chapter. The administrative compliance order may be issued to:

(1) The owner or occupant or other responsible person of any private property requiring abatement of conditions on the property that cause or may cause or contribute to a prohibited discharge, illicit connection, or other violation of this chapter;

(2) The owner of private property subject to the requirements of any WQMP to ensure implementation of and adherence to the terms, conditions and requirements of the plan;

(3) A permittee subject to the requirements of any permit issued pursuant to section 6-8-306 hereof to ensure compliance with the terms, conditions and requirements of the

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permit.

(4) Any person responsible for an illicit connection, prohibited discharge, or other violation of this chapter.

- b. The administration compliance order may include the following terms and requirements:
- (1) Specific steps and time schedules for compliance as reasonably necessary to prevent threatened or future prohibited discharges, including but not limited to the threat of a prohibited discharge from any pool, pit, well, surface impoundment, holding or storage area;
 - (2) Specific steps and time schedules for compliance as reasonably necessary to discontinue any illicit connection;
 - (3) Specific requirements for containment, cleanup, removal, storage, installation of overhead covering, or proper disposal of any pollutant having the potential to contact runoff;
 - (4) Any other terms or requirements reasonably calculated to prevent continued or threatened violations of this chapter, including, but not limited to requirements for compliance with best management practices guidance documents promulgated by any federal, State, regional or local agency;
 - (5) Any other terms or requirements reasonably calculated to achieve full compliance with the terms, conditions and requirements of any water quality management plan, or permit issued pursuant hereto.

3. *Cease and desist orders.*

a. The Authorized Inspector may issue a cease and desist order. A cease and desist order shall be delivered in accordance with subsection 6-8-305A.5 of the chapter. A cease and desist order may direct the owner or occupant or other responsible person of any private property, and/or any other person responsible, for a violation of this chapter, to:

- (1) Immediately discontinue any illicit connection or prohibited discharge to the stormwater drainage system.
- (2) Immediately contain or divert any flow of water off the property, where the flow is occurring in violation of any provision of this chapter;
- (3) Immediately discontinue any other violation of this chapter.
- (4) Clean up the area affected by the violation.

b. The Authorized Inspector may direct by cease and desist order that the owner or operator or other responsible party of any private property be subject to the terms and conditions of any WQMP, or any permittee under any permit issued pursuant to section 6-8-306 hereof immediately cease any activity not in compliance with the terms, conditions and requirements of the applicable WQMP or permit.

4. *Recovery of costs.* The Authorized Inspector may deliver to the owner or occupant or other

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responsible party of any private property, any permittee or any responsible party, or any other person who becomes subject to a notice of noncompliance or administrative order, an invoice of costs. An invoice for costs shall be delivered in accordance with section 6-8-305.A.5 of this chapter. An invoice for costs shall be immediately due and payable to the City for the actual costs incurred by the City in issuing and enforcing any notice or order. If any owner or occupant, permittee or other responsible party fails to either pay the invoice for costs or to successfully appeal the invoice for costs in accordance with section 6-8-305.a.6, then the enforcing attorney may institute collection proceedings.

5. *Delivery of notice.* Any notice of noncompliance, administrative compliance order, cease and desist order or invoice of costs to be delivered pursuant to the requirements of this chapter shall be subject to the following:

- a. The notice shall state that the recipient has a right to appeal the matter as set forth in subsections 6-8-305.A.6 to 10 of this chapter.
- b. Delivery shall be deemed complete upon:
 - (1) Personal service to the recipient;
 - (2) Deposit in the U.S. mail, postage pre-paid for first class delivery; or
 - (3) Facsimile service with confirmation of receipt.
- c. Where the recipient of notice is the owner of the property, the address for notice shall be the address from the most recently issued equalized assessment roll for the property or as otherwise appears in the current records of the City.
- d. Where the owner or occupant or other responsible party of any private property cannot be located after the reasonable efforts of the Authorized Inspector, a notice of noncompliance or cease and desist order shall be deemed delivered after posting on the property for a period of ten business days.

6. *Administrative hearing for notices of noncompliance, administrative compliance orders, invoices for costs and adverse determinations.* Except as set forth in subsection 6-8-305.A.8, any person receiving a notice of noncompliance, administrative compliance order, a notice of legal nonconforming connection, an invoice for costs, or any person who is subject to any adverse determination made pursuant to this chapter, may appeal the matter by requesting an administrative hearing.

7. *Request for administrative hearing.* Any person appealing a notice of noncompliance, an administrative compliance order, a notice of legal nonconforming connection, an invoice for costs or an adverse determination shall, within 30 days of receipt thereof, file a written request for an administrative hearing, accompanied by an administrative hearing fee as established by separate resolution, with the Office of the City Clerk, with a copy of the request for administrative hearing mailed on the date of filing to the Director. Thereafter, a hearing on the matter shall be held before the Hearing Officer within 45 business days of the date of filing of the written request unless, in the reasonable discretion of the Hearing Officer and pursuant to a written request by the appealing party, a continuance of the hearing is granted.

8. *Administrative hearing for cease and desist orders and emergency abatement actions.* An

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administrative hearing on the issuance of a cease and desist order or following an emergency abatement action shall be held within five business days following the issuance of the order or the action of abatement, unless the hearing (or the time requirement for the hearing) is waived in writing by the party subject to the cease and desist order or the emergency abatement. A request for an administrative hearing shall not be required from the person subject to the cease and desist order or the emergency abatement action.

9. *Hearing proceedings.* The Authorized Inspector shall appear in support of the notice, order, determination, invoice for costs or emergency abatement action, and the appealing party shall appear in support of withdrawal of the notice, order, determination, invoice for costs, or in opposition to the emergency abatement action. The City shall have the burden of supporting any enforcement or other action by a preponderance of the evidence. Each party shall have the right to present testimony and other documentary evidence as necessary for explanation of the case.

10. *Final decision and appeal.* The final decision of the Hearing Officer shall issue within ten business days of the conclusion of the hearing and shall be delivered by first-class mail, postage prepaid, to the appealing party. The final decision shall include notice that any legal challenge to the final decision shall be made pursuant to the provisions of Code of Civil Procedure §§ 1094.5 and 1094.6 and shall be commenced within ninety (90) days following the final decision. The administrative hearing fee paid by a prevailing party in an appeal shall be refunded. Notwithstanding this subsection 6-8-305.A.10, the final decision of the Hearing Officer in any proceeding determining the validity of a cease and desist order or following an emergency abatement action shall be mailed within five business days following the conclusion of the hearing.

11. *City abatement.* In the event the owner of private property, the operator of a facility, a permittee or other responsible party fails to comply with any provision of a compliance schedule issued pursuant to this chapter, the Authorized Inspector may request the enforcing attorney to obtain an abatement warrant or other appropriate judicial authorization to enter the property, abate the condition, and restore the area. Any costs incurred by the City in obtaining and carrying out an abatement warrant or other judicial authorization may be recovered through abatement and/or collection proceedings as set forth herein.

B. *Nuisance.* Any condition in violation of the prohibitions of this chapter, including but not limited to the maintenance or use of any illicit connection or the occurrence of any prohibited discharge, shall constitute a threat to the public health, safety and welfare, and is declared and deemed a nuisance pursuant to Government Code § 38771.

1. *Court order to enjoin or abatement.* At the request of the Chief Building Official, City Manager, or Director of Community Development, the enforcing attorney may seek a court order to enjoin and/or abate the nuisance.

2. *Notice to owner and occupant.* Prior to seeking any court order to enjoin or abate a nuisance or threatened nuisance, the Chief Building Official, City Manager, or Director of Community Development shall provide notice of the proposed injunction or abatement to the owner, occupant and responsible party, if any exist, of the property where the nuisance or threatened nuisance is occurring.

3. *Emergency abatement.* In the event the nuisance constitutes an immediate danger to public safety or the environment, the Authorized Inspector, including all persons acting under his/her direction, may enter the property from which the nuisance emanates, abate the nuisance and

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restore any property affected by the nuisance, without prior notice to or consent from the owner, occupant or responsible party thereof and without judicial warrant. An imminent danger shall include, but is not limited to, exigent circumstances created by the dispersal of pollutants, where the same presents a significant and immediate threat to the public safety or the environment. Notwithstanding the authority of the City to conduct an emergency abatement action, an administrative hearing pursuant to subsection 6-8-305.A.8 hereinabove shall follow the abatement action.

4. *Reimbursement of costs.* All costs incurred by the City in responding to any nuisance, all administrative expenses and all legal expenses, including costs and attorney fees and all consultant and expert fees and costs, shall be recoverable from the person(s) creating, causing, committing or maintaining the nuisance.

5. *Nuisance lien.* All costs shall become a lien against the property from which the nuisance emanated and a personal obligation against the owner thereof in accordance with Government Code § 38773.1 and § 38773.5. The owner of record of the property subject to any lien shall receive notice of the lien prior to recording as required by Government Code § 38773.1. At the direction of the Chief Building Official, City Manager, or Director of Community Development, the enforcing attorney is authorized to collect nuisance abatement costs or enforce a nuisance lien in an action brought for a money judgment or by delivery to the County Assessor of a special assessment against the property in accord with the conditions and requirements of Government Code § 38773.5.

C. *Criminal sanctions.*

1. *Prosecutor.* The enforcing attorney may act on the request of the Chief Building Official, City Manager, or Director of Community Development to pursue enforcement actions in accordance with the provisions of this chapter.

2. *Infractions.* Any person who may otherwise be charged with a misdemeanor under this chapter may be charged, at the discretion of the prosecuting attorney, with an infraction punishable by a fine of not more than \$100.00 for a first violation, \$200.00 for a second violation, and a fine not exceeding \$500.00 for each additional violation occurring within one year.

3. *Misdemeanors.* Any person who negligently or knowingly violates any provision of this chapter, undertakes to conceal any violation of this chapter, continues any violation of this chapter after notice thereof, or violates the terms, conditions and requirements of any water quality management plan or permit, shall be guilty of a misdemeanor punishable by a fine of not more than \$1,000.00 or by imprisonment for a period of not more than six months, or both.

D. *Consecutive violations.* Each day in which a violation occurs and each separate failure to comply with either a separate provision of this chapter, an administrative compliance order, a cease and desist order, an applicable water quality management plan, or a permit issued pursuant to this chapter, shall constitute a separate violation of this chapter punishable by fines or sentences issued in accordance herewith.

E. *Non-exclusive remedies.* Each and every remedy available for the enforcement of this chapter shall be non-exclusive and it is within the discretion of the Chief Building Official, City Manager, or Director of Community Development or enforcing attorney to seek cumulative remedies, except that multiple monetary fines or penalties shall not be available for any single violation of this chapter.

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F. *Citations.* Pursuant to Penal Code § 836.5, the Chief Building Official, City Manager, or Director of Community Development shall have the authority to cause the arrest of any person committing a misdemeanor or infraction pursuant to the provisions of the chapter. The person shall be released and issued a citation to appear before a magistrate in accordance with Penal Code § 853.5, § 853.6, and § 853.9, unless the person demands to be taken before the magistrate. Following issuance of any citation, the Chief Building Official, City Manager, or Director of Community Development may refer the matter to the enforcing attorney. Each citation to appear shall state the name and address of the violator, the provisions of this chapter violated, and the time and place of appearance before the court, which shall be at least ten business days after the date of violation. The person cited shall sign the citation giving his or her written promise to appear as stated therein. If the person cited fails to appear, the enforcing attorney may request issuance of a warrant for the arrest of the person cited.

G. *Violations of other laws.* Any person acting in violation of this chapter also may be acting in violation of the federal Clean Water Act (33 USC § 1251, et seq.) or the California Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.) and other laws and also may be subject to sanctions including civil liability under such other laws. Accordingly, the enforcing attorney is authorized to file a citizen suit pursuant to the federal Clean Water Act (Title 33 U.S.C. section 1365(a)), seeking penalties, damages, and others compelling compliance, and other appropriate relief. The enforcing attorney may notify EPA, the State Water Resources Control Board, the Santa Ana Regional Water Quality Control Board, or any other appropriate State or local agency, of any alleged violation of this chapter.

H. *Injunctions.* At the request of the Chief Building Official, City Manager, or Director of Community Development, the enforcing attorney may cause the filing, in a court of competent jurisdiction, of a civil action seeking an injunction against any threatened or continuing noncompliance with the provisions of this chapter. Any temporary, preliminary, or permanent injunction issued pursuant hereto may include an order for reimbursement to the City of all costs incurred in enforcing this chapter, including costs of inspection, investigation and monitoring, the costs of abatement undertaken at the expense of the City, legal expense, including costs and attorney fees, and consultant and expert fees and costs, and costs relating to restoration of the environment.

I. *Other civil remedies.*

1. The Chief Building Official, City Manager, or Director of Community Development may cause the enforcing attorney to file an action for civil damages in a court of competent jurisdiction seeking recovery of:

- a. All costs incurred in enforcement of the chapter, including but not limited to costs relating to investigation, sampling, monitoring, inspection, administrative expenses, legal expenses, including costs and attorney fees, and consultant and expert fees and costs, and consequential damages;
- b. All costs incurred in mitigating harm to the environment or reducing the threat to human health; and
- c. Damages for irreparable harm to the environment.

2. The enforcing attorney is authorized to file actions for civil damages resulting from any trespass or nuisance occurring on public land or to the stormwater drainage system from any violation of this chapter where the same has caused damage, contamination or harm to the environment, public property, or the stormwater drainage system.

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3. The remedies available to the City pursuant to the provisions of this chapter shall not limit the right of the City to seek any other remedy that may be available by law.

(Ord. No. 10-06, § 1, 7-13-10)

Sec. 6-8-306. - Interagency cooperation.

A. The federal Clean Water Act authorizes the issuance of the NPDES permit and provides for cooperative implementation of requirements and interagency allocations of program resources and burdens. The coordinated effort of the County and the co-permittees is reflected in the National Pollutant Discharge Elimination System Permit Implementation Agreement for the Santa Ana Region, the NPDES permit, the DAMP, the City's local implementation plan, this chapter and the Enforcement Consistency Guide, the Appendices to the DAMP, including, but not limited to, the development project guidance, monitoring and data collection cooperation and regular emergency and spill response planning activities.

B. The City may elect to contract for the services of any public agency or private enterprise to carry out the planning approvals, inspections, permits and enforcement authorized by this chapter.

(Ord. No. 10-06, § 1, 7-13-10)

Sec. 6-8-307. - Compliance with chapter is not compliance with other laws.

Compliance by any person or entity with the provisions of this chapter shall not relieve any such person or entity from complying with other applicable local, State or federal statutory or regulatory requirements.

(Ord. No. 10-06, § 1, 7-13-10)