



**PRIVATE DETENTION BASIN /  
STORMWATER QUALITY BEST MANAGEMENT PRACTICE  
MAINTENANCE AGREEMENT AND EASEMENT**

This PRIVATE DETENTION BASIN / STORMWATER QUALITY BEST MANAGEMENT PRACTICE MAINTENANCE AGREEMENT AND EASEMENT (Agreement) is made by and between EL PASO COUNTY by and through THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO (Board or County) and SALVATION ARMY (Developer). The above may occasionally be referred to herein singularly as "Party" and collectively as "Parties."

**Recitals**

A. WHEREAS, Developer is the owner of certain real estate (the Property) in El Paso County, Colorado, which Property is legally described in Exhibit A attached hereto and incorporated herein by this reference; and

B. WHEREAS, Developer desires to construct improvements to an existing use on the Property; and

C. WHEREAS, the development of this Property will substantially increase the volume of water runoff and will decrease the quality of the stormwater runoff from the Property, and, therefore, it is in the best interest of public health, safety and welfare for the County to condition approval of this land use on Developer's promise to construct adequate drainage, water runoff control facilities, and stormwater quality structural Best Management Practices ("BMPs") for the land use; and

D. WHEREAS, Chapter 8, Section 8.4.5 of the El Paso County Land Development Code, as periodically amended, promulgated pursuant to Section 30-28-133(1), Colorado Revised Statutes (C.R.S.), requires the County to condition approval of all subdivisions on a developer's promise to so construct adequate drainage, water runoff control facilities, and BMPs in subdivisions; and

E. WHEREAS, the Drainage Criteria Manual, Volume 2, as amended by Appendix I of the El Paso County Engineering Criteria Manual (ECM), as each may be periodically amended, promulgated pursuant to the County's Colorado Discharge Permit System General Permit (MS4 Permit) as required by Phase II of the National Pollutant Discharge Elimination System (NPDES), which MS4 Permit requires that the County take measures to protect the quality of stormwater from sediment and other contaminants, requires subdividers, developers, landowners, and owners of facilities located in the County's rights-of-way or easements to provide adequate permanent stormwater quality BMPs with new development or significant redevelopment; and

F. WHEREAS, Section 2.9 of the El Paso County Drainage Criteria Manual provides for a developer's promise to maintain a subdivision's drainage facilities in the event the County does not assume such responsibility; and

G. WHEREAS, developers in El Paso County have historically chosen water runoff detention basins as a means to provide adequate drainage and water runoff control in subdivisions, which basins, while effective, are less expensive for developers to construct than other methods of providing drainage and water runoff control; and

H. WHEREAS, Developer desires to construct for the land use one (1) detention basin/stormwater quality BMP(s) ("detention basin/BMP(s)") as the means for providing adequate drainage and stormwater runoff control and to meet requirements of the County's MS4 Permit, and to operate, clean, maintain and repair such detention basin/BMP(s); and

I. WHEREAS, Developer desires to construct the detention basin/BMP(s) on the Property described in Exhibit A; and

J. WHEREAS, Developer shall be charged with the duties of constructing, operating, maintaining and repairing the detention basin/BMP(s) on the Property described in Exhibit A; and

K. WHEREAS, it is the County's experience that subdivision developers and property owners historically have not properly cleaned and otherwise not properly maintained and repaired these detention basins/BMPs, and that these detention basins/BMPs, when not so properly cleaned, maintained, and repaired, threaten the public health, safety and welfare; and

L. WHEREAS, the County, in order to protect the public health, safety and welfare, has historically expended valuable and limited public resources to so properly clean, maintain, and repair these detention basins/BMPs when developers and property owners have failed in their responsibilities, and therefore, the County desires the means to recover its costs incurred in the event the burden falls on the County to so clean, maintain and repair the detention basin/BMP(s) serving this land use due to the Developer's failure to meet its obligations to do the same; and

M. WHEREAS, the County conditions approval of this land use on the Developer's promise to so construct the detention basin/BMP(s) and to reimburse the County in the event the burden falls upon the County to so clean, maintain and/or repair the detention basin/BMP(s) serving this Property; and

N. WHEREAS, the County could condition land-use approval on the Developer's promise to construct a different and more expensive drainage, water runoff control system and BMPs than those proposed herein, which more expensive system would not create the possibility of the burden of cleaning, maintenance and repair expenses falling on the County; however, the County is willing to forego such right upon the performance of Developer's promises contained herein; and

O. WHEREAS, the County, in order to secure performance of the promises contained herein, conditions approval of this /land use upon the Developer's grant herein of a perpetual Easement over the Property for the purpose of allowing the County to periodically access, inspect, and, when so necessary, to clean, maintain and/or repair the detention basin/BMP(s).

#### Agreement

NOW, THEREFORE, in consideration of the mutual Promises contained herein, the sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Incorporation of Recitals: The Parties incorporate the Recitals above into this Agreement.

2. Covenants Running with the Land: Developer agrees that this entire Agreement and the performance thereof shall become a covenant running with the land, which land is legally described in Exhibit A attached hereto, and that this entire Agreement and the performance thereof shall be binding upon itself, its successors and assigns.

3. Construction: Developer shall construct on the Property described in Exhibit A attached hereto and incorporated herein by this reference, one (1) detention basin/BMP(s). Developer shall not commence construction of the detention basin/BMP(s) until the El Paso County Planning and Community Development Services Department (PCD) has approved in writing the plans and specifications for the detention basin/BMP(s) and this Agreement has been signed by all Parties and returned to the PCD. Developer shall complete construction of the detention basin/BMP(s) in substantial compliance with the County-approved plans and specifications for the detention basin/BMP(s). Failure to meet these requirements shall be a material breach of this Agreement and shall entitle the County to pursue any remedies available to it at law or in equity to enforce the same. Construction of the detention basin/BMP(s) shall be substantially completed within one (1) year (defined as 365 days), which one year period will commence to run on the date the approved plat of this Subdivision is recorded in the records of the El Paso County Clerk and Recorder. In cases where a subdivision is not required, the one-year period will commence to run on the date the Erosion and Stormwater Quality Control Permit (ESQCP) is issued. Rough grading of the detention basin/BMP(s) must be completed and inspected by the PCD prior to commencing road construction.

In the event construction is not substantially completed within the one (1) year period, then the County may exercise its discretion to complete the project and shall have the right to seek reimbursement from the Developer and its successors and assigns, for its actual costs and expenses incurred in the process of completing construction. The term actual costs and expenses shall be liberally construed in favor of the County, and shall include, but shall not be limited to, labor costs, tool and equipment costs, supply costs, and engineering and design costs, regardless of whether the County uses its own personnel, tools, equipment and supplies, etc. to correct the matter. In the event the County initiates any litigation or engages the services of legal counsel in order to enforce the provisions arising herein, the County shall be entitled to its damages and costs, including reasonable attorney fees, regardless of whether the County contracts with outside legal counsel or utilizes in-house legal counsel for the same.

4. Maintenance: The Developer agrees, for itself and its successors and assigns, that it will regularly and routinely inspect, clean and maintain the detention basin/BMP(s) in compliance with the County-reviewed Operation and Maintenance Manual, attached hereto as Exhibit B and incorporated herein by reference, and otherwise keep the same in good repair, all at its own cost and expense. No trees or shrubs that will impair the structural integrity of the detention basin/BMP(s) shall be planted or allowed to grow on the detention basin/BMP(s).

5. Creation of Easement: Developer hereby grants the County a non-exclusive perpetual easement upon and across the Property described in Exhibit A. The purpose of the easement is to allow the County to access, inspect, clean, repair and maintain the detention basin/BMP(s); however, the creation of the easement does not expressly or implicitly impose on the County a duty to so inspect, clean, repair or maintain the detention basin/BMP(s).

6. County's Rights and Obligations: Any time the County determines, in the sole exercise of its discretion, that the detention basin/BMP(s) is not properly cleaned, maintained and/or otherwise

kept in good repair, the County shall give reasonable notice to the Developer and its successors and assigns, that the detention basin/BMP(s) needs to be cleaned, maintained and/or otherwise repaired. The notice shall provide a reasonable time to correct the problems. Should the responsible parties fail to correct the specified problems, the County may enter upon the Property to so correct the specified problems. Notice shall be effective to the above by the County's deposit of the same into the regular United States mail, postage pre-paid. Notwithstanding the foregoing, this Agreement does not expressly or implicitly impose on the County a duty to so inspect, clean, repair or maintain the detention basin/BMP(s).

7. Reimbursement of County's Costs / Covenant Running with the Land: The Developer agrees and covenants, for itself, its successors and assigns, that it will reimburse the County for its costs and expenses incurred in the process of completing construction of, cleaning, maintaining, and/or repairing the detention basin/BMP(s) pursuant to the provisions of this Agreement.

The term "actual costs and expenses" shall be liberally construed in favor of the County, and shall include, but shall not be limited to, labor costs, tools and equipment costs, supply costs, and engineering and design costs, regardless of whether the County uses its own personnel, tools, equipment and supplies, etc. to correct the matter. In the event the County initiates any litigation or engages the services of legal counsel in order to enforce the provisions arising herein, the County shall be entitled to its damages and costs, including reasonable attorney's fees, regardless of whether the County contracts with outside legal counsel or utilizes in-house legal counsel for the same.

8. Contingencies of Land Use/Land Disturbance Approval: Developer's execution of this Agreement is a condition of land use/land disturbance approval.

The County shall have the right, in the sole exercise of its discretion, to approve or disapprove any documentation submitted to it under the conditions of this paragraph, including but not limited to, any separate agreement or amendment, if applicable, identifying any specific maintenance responsibilities not addressed herein. The County's rejection of any documentation submitted hereunder shall mean that the appropriate condition of this Agreement has not been fulfilled.

9. Agreement Monitored by El Paso County Planning and Community Development Department and/or El Paso County Department of Public Works: Any and all actions and decisions to be made hereunder by the County shall be made by the Director of the El Paso County Planning and Community Development Department and/or the Director of the El Paso County Department of Public Works. Accordingly, any and all documents, submissions, plan approvals, inspections, etc. shall be submitted to and shall be made by the Director of the Planning and Community Development Department and/or the Director of the El Paso County Department of Public Works.

10. Indemnification and Hold Harmless: Developer agrees, for itself, its successors and assigns, that it will indemnify, defend, and hold the County harmless from any and all loss, costs, damage, injury, liability, claim, lien, demand, action and causes of action whatsoever, whether at law or in equity, arising from or related to its intentional or negligent acts, errors or omissions or that of its agents, officers, servants, employees, invitees and licensees in the construction, operation, inspection, cleaning (including analyzing and disposing of any solid or hazardous wastes as defined by State and/or Federal environmental laws and regulations), maintenance, and repair of the detention basin/BMP(s), and such obligation arising under this paragraph shall be joint and several. Nothing in this paragraph

shall be deemed to waive or otherwise limit the defense available to the County pursuant to the Colorado Governmental Immunity Act, Sections 24-10-101, *et seq.* C.R.S., or as otherwise provided by law.

11. Severability: In the event any Court of competent jurisdiction declares any part of this Agreement to be unenforceable, such declaration shall not affect the enforceability of the remaining parts of this Agreement.

12. Third Parties: This Agreement does not and shall not be deemed to confer upon or grant to any third party any right to claim damages or to bring any lawsuit, action or other proceeding against either the County, the Developer, or their respective successors and assigns, because of any breach hereof or because of any terms, covenants, agreements or conditions contained herein.

13. Solid Waste or Hazardous Materials: Should any refuse from the detention basin/BMP(s) be suspected or identified as solid waste or petroleum products, hazardous substances or hazardous materials (collectively referred to herein as "hazardous materials"), the Developer shall take all necessary and proper steps to characterize the solid waste or hazardous materials and properly dispose of it in accordance with applicable State and/or Federal environmental laws and regulations, including, but not limited to, the following: Solid Wastes Disposal Sites and Facilities Acts, §§ 30-20-100.5 – 30-20-119, C.R.S., Colorado Regulations Pertaining to Solid Waste Disposal Sites and Facilities, 6 C.C.R. 1007-2, *et seq.*, Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992k, and Federal Solid Waste Regulations 40 CFR Ch. I. The County shall not be responsible or liable for identifying, characterizing, cleaning up, or disposing of such solid waste or hazardous materials. Notwithstanding the previous sentence, should any refuse cleaned up and disposed of by the County be determined to be solid waste or hazardous materials, the Developer, but not the County, shall be responsible and liable as the owner, generator, and/or transporter of said solid waste or hazardous materials.

14. Applicable Law and Venue: The laws, rules, and regulations of the State of Colorado and El Paso County shall be applicable in the enforcement, interpretation, and execution of this Agreement, except that Federal law may be applicable regarding solid waste or hazardous materials. Venue shall be in the El Paso County District Court.

IN WITNESS WHEREOF, the Parties affix their signatures below.

Executed this 10 day of January, 2025, by:

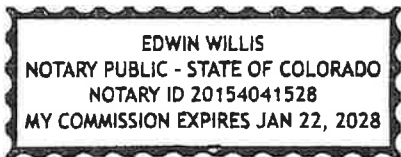
SALVATION ARMY

By: Captain Eric Wilkerson  
Captain Eric Wilkerson

The foregoing instrument was acknowledged before me this 10<sup>th</sup> day of January, 2025, by Captain Eric Wilkerson of the Salvation Army

Witness my hand and official seal.

My commission expires: Jan. 22, 2028



Edwin Willis

Notary Public

Executed this 14<sup>TH</sup> day of JANUARY, 2025, by:

BOARD OF COUNTY COMMISSIONERS  
OF EL PASO COUNTY, COLORADO

By: Gilbert LaForce

Gilbert LaForce, Engineering Manager  
Development Services, Department of Public Works  
Designee of Joshua Palmer, County Engineer  
Authorized signatory pursuant to Resolution No. 24-145

The foregoing instrument was acknowledged before me this 14<sup>th</sup> day of JANUARY, 2025, by Gilbert LaForce, Engineering Manager, El Paso County Department of Public Works.

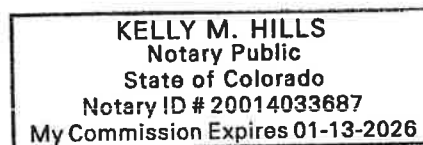
Witness my hand and official seal.

My commission expires: 1/13/2026

Kelly M. Hills  
Notary Public

Approved as to Content and Form:

Lori L. Seago  
Assistant County Attorney



## EXHIBIT A

### **PARCEL 1:**

LOTS 4 AND 5, BLOCK 1, REFILING OF SECURITY, COLORADO ADDITION NO. 4, COUNTY OF EL PASO, STATE OF COLORADO.

### **PARCEL 2:**

LOT 6, BLOCK 1, REFILING OF SECURITY, COLORADO ADDITION NO. 4, COUNTY OF EL PASO, STATE OF COLORADO.

TIM STACKHOUSE, P.E.  
COLORADO NO. 61924  
FOR AND ON BEHALF OF:  
R&R ENGINEERS-SURVEYORS, INC.

EXHIBIT B

OPERATIONS & MAINTENANCE MANUAL



# **Stormwater Permanent Control Measure Standard Inspection and Maintenance Plan Procedures/Forms**

**for:**

## **Bioretention Basin**

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# Introduction

This plan addresses the operation and maintenance of a private bioretention / water quality pond to be constructed as part of the Fountain Valley Salvation Army Development project located at 208 Cunningham Drive.

## Background

The State of Colorado Department of Public Health and Environment, Water Quality Control Division (CDPHE), has implemented federal regulations within the State of Colorado through permitting, and has included El Paso County as one of numerous Municipal Separate Storm Sewer Systems (MS4s) required to be permitted in compliance with National Pollutant Discharge Elimination System (NPDES) Phase 2 Regulations, as defined within Colorado's Phase 2 Municipal Guidance.

NPDES Phase 2 MS4s stormwater discharges are covered under a general permit under the Colorado Discharge Permit System (CDPS) under Regulation 61, and as a minimum require the MS4's operator (e.g., El Paso County) to develop, implement, and enforce a stormwater management program to reduce the discharge of pollutants to the maximum extent practicable to protect water quality requirements of the Colorado Water Quality Control Act, Colorado Code of Regulations [CCR] 61.8(11)(a)(i)).

This Stormwater Facilities Operation and Maintenance Plan (O&M Plan) is for a private bioretention stormwater pond to be constructed as part of the development project referenced above.

## Associated Agreements

The proposed bioretention stormwater pond is private, and no agreements are made between the Owner and any other agencies or property owners.

## Site and Facilities Description

The 208 Cunningham Drive Site is proposing a paved parking lot and a bioretention pond in El Paso County, Colorado. The site is 2.04 acres and currently consists of one existing building for the Salvation Army. The site is located on Lot 4, Block 5, 1 Refill Security, Colorado Addition 4 within a portion of the Northeast Quarter of Section 11, Township 15 South, Range 66 West of the Sixth P.M., with Cunningham Drive ROW east of the site. Site Development activities will include site grading, asphalt paving, and associated improvements. Total site area = 2.04-acres; Projected disturbed area = 0.81-acres (approx.)

Proposed sequence of major activities:

- Mobilization / implementation of SCM's
- Clearing and grubbing
- Rough grading
- Parking lot paving

Existing vegetation of site:

- Sparse grasses and trees (approx. 55% coverage, based on site inspection)

The project lies within drainage basin Security FOF02800 which ultimately discharges to Fountain Creek (ultimate receiving water).

# **Appendix A: Compliance with Permanent Control Measure (PCM) Requirements**

All property owners are responsible for ensuring that stormwater PCMs installed on their property or as part of the development are properly maintained, function as designed, and are not modified from original design, to include ensuring proper drainage to the PCM from the development is maintained. Private property owners that own and maintain PCMs are required to enter a maintenance agreement contract with the City of Colorado Springs (the City). Property owners shall be aware of the responsibilities regarding PCM inspection and maintenance (IM) and shall be familiar with the contents of this IM Plan.

## **Annual Reporting**

Verification that PCMs have been properly inspected and maintained by submittal of the IM forms shall be provided to the City on an annual basis. The reporting forms shall be provided to the City no later than (NLT) May 31st of each calendar year. IM forms are located in Appendix C, D and E of this plan.

## **Inspecting**

PCMs must be inspected to ensure that they function as designed. The inspection shall determine any appropriate maintenance required for the facility. All PCMs are required to be inspected a minimum of once per year unless otherwise specified in Appendix F, if provided. Inspections shall follow the inspection guidance found in Appendix B.

### **Inspection Report**

The annual inspection reporting form is located in Appendix C. The reporting form shall be submitted in conjunction with the IM forms no later than May 31st of each calendar year. A copy of all forms shall be retained by the owner for a minimum of 5 years.

## **Maintaining**

PCMs must be properly maintained to ensure that they operate as designed. Routine maintenance can help avoid more costly rehabilitative maintenance.

### **Maintenance Categories**

PCM maintenance programs are separated into three broad categories of work. The categories are separated based upon the magnitude and type of maintenance activities performed. A description of each category follows:

#### **Routine Maintenance**

This work consists of scheduled mowing, trash and debris removal, weed control, mosquito treatment, and algae treatment. This includes items such as the removal of debris/material that may be clogging any part of the outlet structure. These activities are normally performed numerous times during the year. This work can be completed without correspondence with the City; however, all work shall be documented on the maintenance form.

#### **Restoration Work**

This work consists of small-scale maintenance needed to address operational problems to include but not limited to; concrete repair and riprap repair/replacement. This work does not require prior correspondence with the City; however, all work shall be documented on the maintenance form.

#### **Rehabilitation Work**

This work consists of major maintenance needed to address failures within the PCM. This work requires consultation with an engineer and may require construction plans to be submitted for review and approval by the City. These items require prior correspondence with the City in addition to work being documented on the maintenance form.

## **Verification of Inspection and Maintenance Form Submittal**

The PCM Inspection Form provides a record of inspection of the facility. Inspection Forms for each facility type are provided in Appendix D. The PCM Maintenance Form provides a record of maintenance activities and includes general cost information to assist property owners in budgeting for future maintenance. Maintenance Forms for each facility type are provided in Appendix E. Verification of inspections and maintenance of the stormwater facilities shall be provided to the City of Colorado Springs/Stormwater Enterprise on an annual basis NLT May 31st. The property owner and/or property manager shall verify the inspection and maintenance forms by signing the Annual Inspection and Maintenance Submittal Form provided in Appendix C.

# Appendix B: Standard Operation Procedure For Inspection and Maintenance of Bioretention Basins

## 1. INSPECTING BIORETENTION BASINS

### 1.1. Bioretention Basin Components

1.1.1. Bioretention Basins have components that are designed to serve a particular function. It is critical that each feature is properly inspected to ensure that the overall facility functions as designed. Below is a list and description of the most common features within a Bioretention Basin and the corresponding inspection items that shall be anticipated:

#### 1.1.2. Inspection Requirement Matrix

Inspection Item Bioretention Basin Components	Erosion	Illicit Discharge	Overgrown Vegetation	Sediment Accumulation	Standing Water	Structural Condition	Trash & Debris Accumulation
Inflow Point	X		X	X		X	X
Filter Media	X	X	X	X	X		X
Underdrain System				X	X	X	
Outlet/Overflow Structure	X	X	X	X	X	X	X
Landscaping	X		X	X			X
Embankments	X		X			X	X

### 1.2. Inflow Points

1.2.1. Inflow points are the point source of stormwater entrance into the facility. An inflow point for a Bioretention Basin is commonly a rock-lined or rip-rap run down or curb cut.

1.2.2. Typical inspection items noted for inflow points are:

1.2.2.1. Erosion – Erosion will require maintenance to prevent damage to the structure(s) and sediment transport within the facility.

1.2.2.2. Mowing, Weed Control and Overgrown Vegetation – Undesirable vegetation can significantly affect the performance of the facility. This type of vegetation includes trees, dense areas of shrubs, and vegetation not specified on the plan that could negatively impact the performance of the facility. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, and/or roots can cause damage to the structural components of the facility. In addition, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/land.

1.2.2.3. Sediment Accumulation – To prevent a loss in hydraulic performance, sediment accumulation must

be removed in a timely manner.

1.2.2.4. Structural Damage – Structural damage can lead to operational problems with the facility, including loss of hydraulic performance.

1.2.2.5. Trash and Debris Accumulation – To prevent a loss in hydraulic performance, trash and debris accumulation must be removed in a timely manner.

### 1.3. Filter Media

1.3.1. The filter media is the main pollutant removal component of a Bioretention Basin. The filter media removes pollutants through several different processes, including sedimentation, filtration, infiltration and microbial uptake. Sedimentation is accomplished by the slow release of stormwater runoff through the filter media.

1.3.2. Typical inspection items noted for the Filter Media are:

1.3.2.1. Erosion - Erosion will require maintenance to prevent damage to the structure(s) and sediment transport within the facility.

1.3.2.2. Illicit Discharge – Indicators of illicit discharges include sheens, odors, discolored soil, and dead vegetation.

1.3.2.3. Mowing, Weed Control and Overgrown Vegetation – Undesirable vegetation can significantly affect the performance of the facility. This type of vegetation includes trees, dense areas of shrubs, and vegetation not specified on the plan that could negatively impact the performance of the facility. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, and/or roots can cause damage to the structural components of the facility. In addition, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/land.

1.3.2.4. Sediment Accumulation – To prevent a loss in hydraulic performance and the need of replacing filter media, sediment accumulation must be removed in a timely manner. If Filter Media becomes clogged due to sediment permeation, full media replacement will be required.

1.3.2.5. Standing Water – Improperly draining structures can lead to mosquito and/or algae growth. Routine maintenance is required to prevent standing water.

1.3.2.6. Trash and Debris Accumulation - To prevent a loss in hydraulic performance, trash and debris accumulation must be removed in a timely manner.

### 1.4. Underdrain System

1.4.1. The underdrain system consists of a gravel storage area, slotted PVC pipes, and PVC clean out pipes. The gravel storage area allows for storage of stormwater runoff prior to the discharge of the runoff through the slotted PVC pipe.

1.4.2. Typical inspection items noted for the Underdrain System are:

1.4.2.1. Sediment Accumulation – To prevent a loss in hydraulic performance, sediment accumulation must be removed in a timely manner.

1.4.2.2. Standing Water – Improperly draining structures can lead to mosquito and/or algae growth. Routine maintenance is required to prevent standing water.

1.4.2.3. Structural Damage – Structural damage can lead to operational problems with the facility, including loss of hydraulic performance.

## 1.5. Outlet/Overflow Structure

1.5.1. The Outlet Structure drains the Bioretention Basin as engineered in specified quantities over limited time. This is accomplished by the installation of steel orifice plates anchored and sealed within the component to control the stormwater release rates. Trash racks are installed in front of the aboveground orifice plates to prevent clogging.

1.5.2. Typical inspection items noted for the Outlet Structure are:

- 1.5.2.1. Erosion – Erosion will require maintenance to prevent damage to the structure(s) and sediment transport within the facility.
- 1.5.2.2. Illicit Discharge – Indicators of illicit discharges include sheens, odors, discolored soil, and dead vegetation.
- 1.5.2.3. Mowing, Weed Control and Overgrown Vegetation – Undesirable vegetation can significantly affect the performance of the facility. This type of vegetation includes trees, dense areas of shrubs, and vegetation not specified on the plan that could negatively impact the performance of the facility. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, and/or roots can cause damage to the structural components of the facility. In addition, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/land.
- 1.5.2.4. Sediment Accumulation – To prevent a loss in hydraulic performance, sediment accumulation must be removed in a timely manner.
- 1.5.2.5. Standing Water – Improperly draining structures can lead to mosquito and/or algae growth. Routine maintenance is required to prevent standing water.
- 1.5.2.6. Structural Damage – Structural damage can lead to operational problems with the facility, including loss of hydraulic performance.
- 1.5.2.7. Trash and Debris Accumulation - To prevent a loss in hydraulic performance, trash and debris accumulation must be removed in a timely manner.

## 1.6. Landscaping

1.6.1. The landscaped component consists of soils with specific pH requirements and plants that provide biological uptake or removal of pollutants. These requirements are normally found within the permanent control measure plan.

1.6.2. Typical inspection items noted for Landscaping are:

- 1.6.2.1. Erosion – Erosion will require maintenance to prevent damage to the structure(s) and sediment transport within the facility.
- 1.6.2.2. Mowing, Weed Control and Overgrown and/or Adequate Vegetation – Undesirable vegetation can significantly affect the performance of the facility. This type of vegetation includes trees, dense areas of shrubs, and vegetation not specified on the plan that could negatively impact the performance of the facility. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, and/or roots can cause damage to the structural components of the facility. In addition, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/land. Ensure required bioretention landscaping is adequate.
- 1.6.2.3. Sediment Accumulation – To prevent a loss in hydraulic performance, sediment accumulation must be removed in a timely manner.

1.6.2.4. Trash and Debris Accumulation - To prevent a loss in hydraulic performance, trash and debris accumulation must be removed in a timely manner.

## 1.7. Embankments

1.7.1. Typical inspection items noted for the Embankment are:

1.7.1.1. Erosion – Erosion will require maintenance to prevent damage to the structure(s) and sediment transport within the facility.

1.7.1.2. Mowing, Weed Control and Overgrown Vegetation – Undesirable vegetation can significantly affect the performance of the facility. This type of vegetation includes trees, dense areas of shrubs, and vegetation not specified on the plan that could negatively impact the performance of the facility. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, and/or roots can cause damage to the structural components of the facility. In addition, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/land.

1.7.1.3. Structural Damage – Structural damage can lead to operational problems with the facility, including loss of hydraulic performance.

1.7.1.4. Trash and Debris Accumulation - To prevent a loss in hydraulic performance, trash and debris accumulation must be removed in a timely manner.

## 1.8. Inspection Forms

1.8.1. The Standard Bioretention Basin Inspection form is located in Appendix D. Inspection forms shall be completed by the person(s) conducting the inspection activities. Each form shall be verified and submitted by the property owner or representative to the City NLT May 31st each year to [stormwater.PCMs@coloradosprings.gov](mailto:stormwater.PCMs@coloradosprings.gov) or the address located on the submittal form in Appendix B. These inspection forms shall be retained for a minimum of 5 years and made available to the City upon request.

## 2. MAINTAINING BIORETENTION BASINS

### 2.1. Maintenance Categories and Activities

2.1.1. A standard Bioretention Basin Maintenance Program consists of three broad categories of work: Routine, Restoration, and Rehabilitation. Within each category of work, a variety of maintenance activities can be performed. A maintenance activity can be specific to a Bioretention Basin component or general to the overall facility. This section of the SOP explains each of the categories and briefly describes the standard maintenance activities.

### 2.2. Routine Maintenance

2.2.1. This work consists of scheduled mowing, trash and debris removal, weed control, mosquito treatment, and algae treatment. This includes items such as the removal of debris/material that may be clogging any part of the outlet structure. These activities are normally performed numerous times during the year. This work can be completed without correspondence with the City; however, all work shall be documented on the inspection and maintenance forms.

### 2.3. Restoration Work

2.3.1. This work consists of small-scale maintenance needed to address operational problems to include but not limited to: concrete repair and riprap repair/replacement. This work does not require prior correspondence with City; however, all work shall be documented on the inspection and maintenance forms.

## 2.4. Rehabilitation Work

2.4.1. This work consists of major repairs needed to address failures within the PCM. This work requires consultation with an engineer and may require design plans be submitted for review and approval by the City. These items require prior correspondence with the City in addition to work being documented on the inspection and maintenance forms.

2.5. Maintenance Activities are summarized in the table below, and further described in the following sections.

## 2.6. Maintenance Activity Matrix

<b>Maintenance Activity</b> <b>Bioretention Basin Components</b>	<b>Erosion Repair</b>	<b>Mowing/ Weed control</b>	<b>Sediment Accumulation Removal</b>	<b>Mosquito and Algae Treatment</b>	<b>Structural Damage Repairs</b>	<b>Trash &amp; Debris Removal</b>
<b>Inflow Point</b>	X	X	X		X	X
<b>Filter Media</b>	X	X	X	X		X
<b>Underdrain System</b>			X	X	X	
<b>Outlet/Overflow Structure</b>	X	X	X	X	X	X
<b>Landscaping</b>	X	X	X			X
<b>Embankment</b>	X	X			X	X

## 2.7. Erosion Repair

2.7.1. The repair of eroded areas is necessary to ensure the proper function of the Bioretention Basin, minimize sediment transport, and to reduce potential impacts to other features. Erosion can vary in magnitude from minor rills to major gullies. Major erosion repairs may require consultation with an engineer. Erosion repairs can be routine maintenance, restoration and/or rehabilitation.

2.7.2. Recommended frequency – As needed, based on inspections.

## 2.8. Mowing

2.8.1. Mowing, tree thinning and dense vegetation removal is necessary to limit vegetation overgrowth, ensure functionality and to improve the overall appearance. Native vegetation should be mowed to a height of 4”-6”. Mowing, tree thinning and dense vegetation removal is routine maintenance.

2.8.2. Recommended frequency – Twice annually or as needed.

## 2.9. Weed Control

2.9.1. Noxious weeds and other unwanted vegetation must be treated as needed throughout the PCM. This activity can be performed through mechanical means (mowing/pulling) or with herbicide. Consultation with a weed inspector is highly recommended prior to the use of herbicide. Weed control is routine maintenance.

2.9.2. Recommended frequency – As needed, based on inspections.

## 2.10. Sediment Removal

2.10.1. Sediment removal is necessary to maintain the original design volume of the PCM and to ensure proper functionality of the infrastructure. Routine sediment removal from the filter media and underdrain can significantly reduce the frequency of major sediment removal activities. Jet-Vac cleaning is normally the best way to remove sediment from the underdrain. If Filter Media becomes clogged due to sediment permeation, full media replacement will be required. Major (restoration/rehabilitation) sediment removal activities may require surveying and consultation with an engineer to ensure design volumes/grades are achieved.

Stormwater sediment removed from PCMs do not meet the State's definition of hazardous waste; however, sediment may be contaminated with a wide array of organic and inorganic pollutants. All removed sediment must be disposed of in accordance with State laws concerning regulated wastes. Sediment removal can be routine maintenance, restoration and/or rehabilitation.

2.10.2. Recommended frequency – Once annually or as needed, based upon inspections.

## 2.11. Mosquito/Algae Treatment

2.11.1. Improperly draining structures can lead to mosquito and/or algae growth. Treatment of standing water may be necessary to control mosquitoes and undesirable aquatic vegetation that can create nuisances. Only EPA approved chemicals/materials can be used in areas that are warranted. Mosquito and algae treatment is routine maintenance.

2.11.2. Recommended frequency – As needed, based on inspections.

## 2.12. Structural Repair

2.12.1. Structural repairs to Bioretention Basin components may require input from an engineer. Minor displacement of rip-rap and minor concrete repairs can be performed routinely. Major structural damage could impact the functionality of the infrastructure. Structural repairs can be routine maintenance, rehabilitation or restoration.

2.12.2. Recommended frequency – As needed, based on inspections.

## 2.13. Trash/Debris Removal

2.13.1. Trash and debris must be removed to minimize outlet clogging and to improve aesthetics. Debris can clog the outlet/overflow structure and the orifice plate. This activity should be performed prior to mowing operations.

2.13.2. Recommended frequency – Twice annually or as needed.

## 2.14. Maintenance Forms

2.14.1. The Standard Bioretention Basin Maintenance Form is located in Appendix D. Each form shall be verified and submitted by the property owner or representative to the City NLT May 31st each year to [stormwater.PCMs@coloradosprings.gov](mailto:stormwater.PCMs@coloradosprings.gov) or the address located on the submittal form in Appendix C. Inspection forms and maintenance forms shall be retained by the property owner for a minimum of 5 years and made available to the City upon request.



## Appendix C: Annual PCM Inspection and Maintenance Submittal Form

*(This form to be submitted to City of Colorado Springs prior to May 31 of each year)*

**Date:** \_\_\_\_\_

**To:** City of Colorado Springs/Stormwater Enterprise  
Attn: PCM Program  
30 S Nevada Suite 410  
Colorado Springs, CO 80903

**OR**

**stormwater.PCMs@coloradosprings.gov**

**Re:** Verification of Inspection and Maintenance; Submittal of forms

Property/Subdivision Name: \_\_\_\_\_

Property Maintenance Agreement Reference No.: \_\_\_\_\_

Property Address: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact Email Address: \_\_\_\_\_

I verify that the required inspections and maintenance have been completed in accordance with the Stormwater PCM Maintenance Agreement and the Inspection and Maintenance Plan associated with the above referenced property.

The required PCM Inspection and Maintenance forms are attached.

\_\_\_\_\_  
Property Owner or Representative

\_\_\_\_\_  
Signature



## Appendix D: Bioretention Basin Inspection Form

Property/Subdivision Name: \_\_\_\_\_ Date: \_\_\_\_\_

For each Bioretention Basin component, please indicate if inspection items are acceptable (A), deficient (D), or not applicable (N/A).

### Inflow Points

- ☐ Erosion
- ☐ Overgrown Vegetation
- ☐ Sediment Accumulation
- ☐ Structural Conditions
- ☐ Trash and Debris

### Landscaping

- ☐ Erosion
- ☐ Overgrown Vegetation
- ☐ Sediment Accumulation
- ☐ Trash and Debris
- ☐ Adequate Bioretention Vegetation

### Embankments

- ☐ Erosion
- ☐ Overgrown Vegetation
- ☐ Structural Conditions
- ☐ Trash and Debris

### Filter Media

- ☐ Erosion
- ☐ Illicit Discharge
- ☐ Overgrown Vegetation
- ☐ Sediment Accumulation
- ☐ Standing Water
- ☐ Trash and Debris

### Underdrain System

- ☐ Sediment Accumulation
- ☐ Standing Water
- ☐ Structural Conditions
- ☐ Orifice Clogged
- ☐ Trash Rack Clogged

### Outlet/Overflow Structure

- ☐ Erosion
- ☐ Illicit Discharge
- ☐ Overgrown Vegetation
- ☐ Sediment Accumulation
- ☐ Standing Water
- ☐ Structural Condition
- ☐ Trash and Debris

### Miscellaneous

- ☐ Graffiti/Vandalism
- ☐ Structure Modification
- ☐ Other – Explain Below

Inspection notes/additional comments: \_\_\_\_\_

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## Appendix E: Bioretention Basin Maintenance Form

Property/Subdivision Name: \_\_\_\_\_ Date: \_\_\_\_\_

Please indicate all maintenance activities performed in the last 12 months.

\_\_\_ Mowing Date(s) Performed: \_\_\_\_\_

\_\_\_ Weed/Tree Removal/Treatment Date(s) Performed: \_\_\_\_\_

\_\_\_ Trash and Debris Removal Date(s) Performed: \_\_\_\_\_

\_\_\_ Underdrain/Outlet Structure Cleaning Date(s) Performed: \_\_\_\_\_

\_\_\_ Mosquito/Algae Treatment Date(s) Performed: \_\_\_\_\_

\_\_\_ Sediment Removal Date(s) Performed: \_\_\_\_\_

\_\_\_ Erosion Repairs  
Location and description of repair(s): \_\_\_\_\_

Date Performed: \_\_\_\_\_

Location and description of repair(s): \_\_\_\_\_

Date Performed: \_\_\_\_\_

\_\_\_ Structural Repairs  
Location and description of repair(s): \_\_\_\_\_

Date Performed: \_\_\_\_\_

Location and description of repair(s): \_\_\_\_\_

Date Performed: \_\_\_\_\_

Maintenance notes/additional comments: \_\_\_\_\_

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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