Construction Site Stormwater Runoff Inlet Protection

Improperly Protected

Introduction

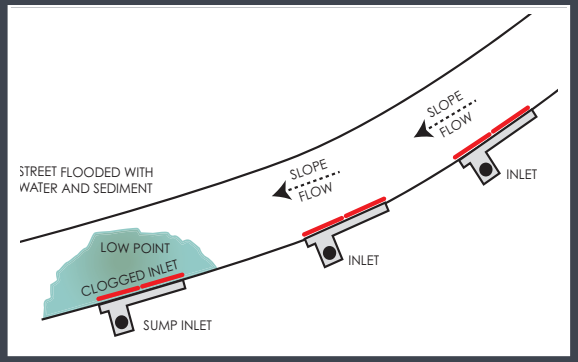
There are many ways to accomplish the task of inlet protection; ranging from readymade products to systems improvised in the field. All systems should accomplish the same set of goals.

- Operate safely.
- Prevent sediment and debris from entering an inlet.
- Allow water to drain or enter the inlet.
- Operate in way that does not cause interference, such as flooding roads or obstructing traffic.

This guide is intended to provide information on a number of ways to properly protect inlets in a number of situations. Please note that there far more methods to accomplish inlet protection than can be shown in this guide. Please also note that although many proprietary products are listed in this guide based on their functionality, the City of Omaha does not recommend one product over another. They are merely shown as examples and to illustrate the number of products readily available.

Please Note:

Installation photos are not meant to be a representation of full compliance for sediment and erosion control on sites. Photos are representations of products and installations as they relate to inlet protection. Other BMP's, or the lack thereof, on the rest of the site areas in the photos are not intended to reflect compliance.



Example: If this inlet becomes clogged or blocked, water and sediment will backup into the street. , potentially leading to an unsafe flooding situation

Inlet Location Conditions

Slope

- Inlets on slopes are designed to manage the amount of water flowing down hill.
- If an inlet on a slope is plugged, water and sediment will bypass the inlet; proceeding on to an inlet which is not designed for the increased flow.

Sump

- An inlet located at a low point is in a "sump" condition.
- If this inlet becomes clogged or blocked, water and sediment it will backup into the street.

Summary

- Inlets must be allowed to drain water.
- Sediment must not go into inlets.

Tube Filters

These products are a popular choice for inlet protection due to their adaptability and ease of installation. The basic design consists of a long fabric or mesh tube filled with a filter media. Reusable products are usually filled with shredded rubber, while disposable products are made of straw or shredded wood.

The effectiveness of these products is almost entirely dependent upon the installation. Like all filter products they are prone to clogging and an overflow is essential, however even in overflow state they can effectively slow the water velocity and induce settling.

Usage Specifications

- Always provide an overflow
- Inspect and clean weekly and immediately after a rain events
  - Remove accumulated sediment with a shovel or broom, not into the inlet
  - Rinse the bags with water in a vegetated area away from inlets
- Do not block or jam inlets, this will cause bypass on a slope and flooding in a sump.
- If used on a slope, use an uphill hook configuration to cause a small pond area which will prevent a bypass situation
- Place product securely so it does not get washed down the inlet
- Do not obstruct traffic with this product.
- Replace the product if damaged or degraded

Big Red
Storm Water Products
www.aspent.com

Big Red
Storm Water Products
www.aspent.com

Dandy Curb
Dandy Products
dandyproducts.com

ErosionEel
Friendly Environment
www.friendlyenvironmentus.com

Crescent Configuration

InletSoxx™
Filtrexx® International
filtrexx.com

Wrap Around Configuration

InletSoxx™
Filtrexx® International
filtrexx.com

Gutter Buddy

GSI

www.acfenvironmental.com

Note: *Overflow holes must be aligned horizontally to function properly.*

Gutter Buddy

GSI

www.acfenvironmental.com

Note: *Must be secured in place to continue functioning, this is true across all products and configurations.*

Crescent Configuration

SlopeGard 3
Kristar
kristar.com

Alternate Crescent Configuration

SlopeGard 3
Kristar
kristar.com

Sand & Gravel Bags

Sand and gravel bags can be used in a similar manner to tube filters. Sand bags provide a barrier, while gravel bags, depending on the aggregate gradation, can provide effective filtration. The effectiveness of these products is almost entirely dependent upon the installation. Like all filter products they are prone to clogging and an overflow is essential, however even in overflow state they can effectively slow the water velocity and induce settling.

Usage Specifications

- Always provide an overflow
- Inspect and clean weekly and immediately after rain events
- Remove accumulated sediment with a shovel or broom, not into the inlet
- Rinse the bags with water in a vegetated area away from inlets
- Do not block or jam inlets, this will cause bypass on a slope and flooding in a sump

Gravel & Sand Bag Examples

Hook Configuration

Sand And Gravel Bags

Silt Sifter

www.psiyes.com
www.shop.bmpoutlet.com
www.esitecontrol.com

Fabric Filter Cloth Systems

Fabric filter cloth systems are extremely effective at removing sediment from storm water. These systems are often composed primarily of silt fence fabric and applied around area inlets and on top of grate inlets. Since these systems can become blocked with sediment quickly they must have an overflow and are recommended in areas where ponding water will not cause a problem.

Usage Specifications

- Always provide an overflow which is a minimum of 2 inches higher than the inlet opening.
- Use only in areas where ponded water will not cause a problem
- Insure that the fabric has a high level of permeability
- Insure that the system is securely in place, and will not be pushed into the inlet.

Configurations

- As instructed by manufacturer.

Fabric Filter Cloth System Examples

ERTEC Combo Guard
ERTEC
www.ertecsystems.com

ERTEC Curb Inlet Guard
ERTEC
www.ertecsystems.com

ERTEC Drop Guard
ERTEC
www.ertecsystems.com

Dandy Pop
Dandy Products
dandyproducts.com

Grate Gater
ACF Environmental
www.acfenvironmental.com

Grate FX
ACF Environmental
www.acfenvironmental.com

Grate Pyramid
ACF Environmental
www.acfenvironmental.com

Natural-Fiber Drain Filter
NewPig
www.newpig.com

Conclusion

There are endless ways to achieve effective and safe inlet protection. The goal of all inlet protection is to effectively keep pollutants out, allow water in and never compromise safety or damage property.

Inlet Protection Product Suppliers

- **ASP Enterprises**
  877-678-8027
  www.aspent.com

- **BMP Store**
  800.644.9223
  www.bmpstore.com

- **ERTEC Environmental Systems**
  866-521-0724
  www.ertecsystems.com

- **Granite Environmental Store**
  888-703-9889
  www.graniteenvironmentalstore.com

- **L & M Supply Company**
  800-948-7870
  www.landmsupplyco.com

- **Lumbermans**
  402-894-2222
  www.lumbermens.biz

- **WhiteCap**
  1-800-944-8322
  www.whitecap.com

Environmental Quality Control

402-444-3908

www.OmahaStormwater.org

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