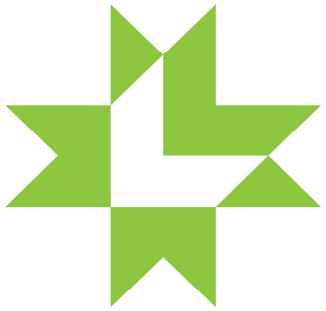

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Watershed Management

Lincoln, Nebraska

Small Site

BMP Handbook & Reference Guide

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IT IS OUR MISSION to responsibly deliver, enhance and maintain vital infrastructure and services for the good of our community.

ACCREDITED AGENCY
APWA

Cover of NEW small site handbook that is now available

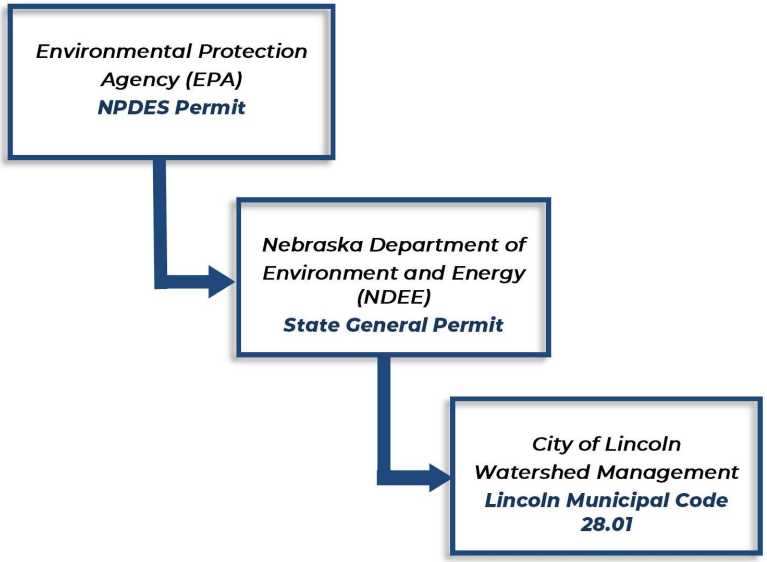
Introduction

Based on the Clean Water Act, the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) permit is implemented by the Nebraska Department of Environment and Energy (NDEE). This permit requires the City of Lincoln to regulate stormwater runoff from construction sites. Lincoln Municipal Code, TITLE 28.01 STORMWATER QUALITY AND EROSION AND SEDIMENT CONTROL was approved by the Lincoln City Council on June 25, 2007.

The regulations shall apply to all construction activity within the corporate limits of the City and within the land outside the corporate limits designated as Tier I in the City of Lincoln/Lancaster County Comprehensive Plan (28.01.040).

Any person who engages in construction activity is responsible for compliance with this chapter and all applicable terms and conditions of the Permit and SWPPP as it relates to any land disturbance less than one acre of total land area that is part of a common plan of development or sale, otherwise known as the building phase of development (28.01.070).

This guide has been developed to assist the building industry with erosion and sediment control best management practices (BMP's) to comply with this Municipal Code.



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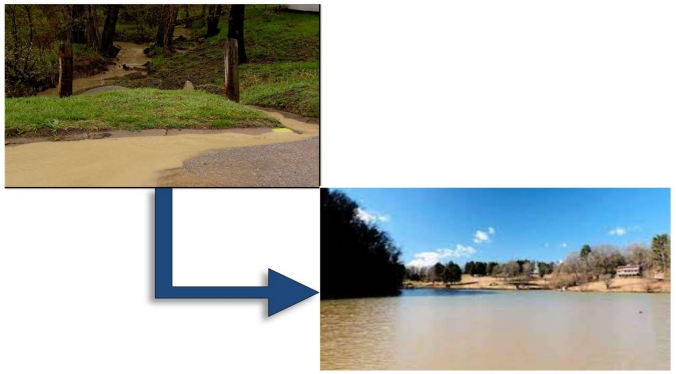
The federal government mandates the state government, who mandates to the city government to run a program to be in compliance with the federal and state NPDES regulations.

The Bigger Picture

Erosion and Sediment Control Best Management Practices (BMP's) are important elements in protecting the water quality in the streams and lakes in the City of Lincoln and State of Nebraska, as well as the nation as a whole and beyond the coast into the Gulf of Mexico.

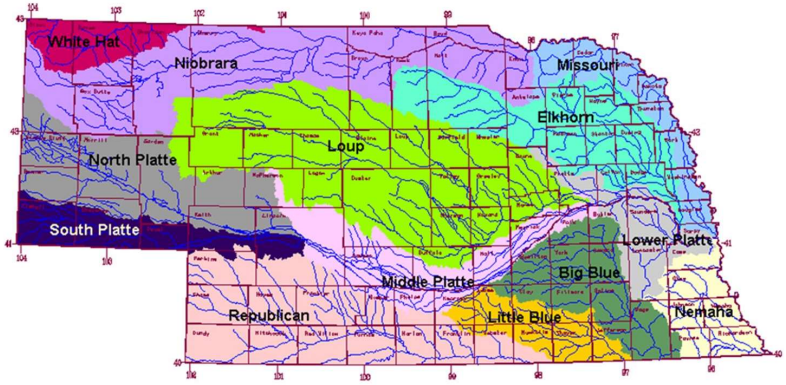
Sediment from construction sites can create safety hazards for pedestrians and vehicles and clog storm sewer inlets.

All storm sewer inlets ultimately lead to a stream or lake. Sediment laden runoff from construction sites can enter water bodies, leading to increased turbidity, reduced water quality, and have negative effects on aquatic ecosystems.



All storm sewer inlets eventually lead to a waterway. What enters the storm inlet gets into a creek.

NEBRASKA'S VAST WATERSHEDS



7,000 RIVERS FEED INTO THE MISSISSIPPI RIVER

Nebraska has a vast system of watersheds. 7000 rivers feed into the Mississippi and it all leads to one place!

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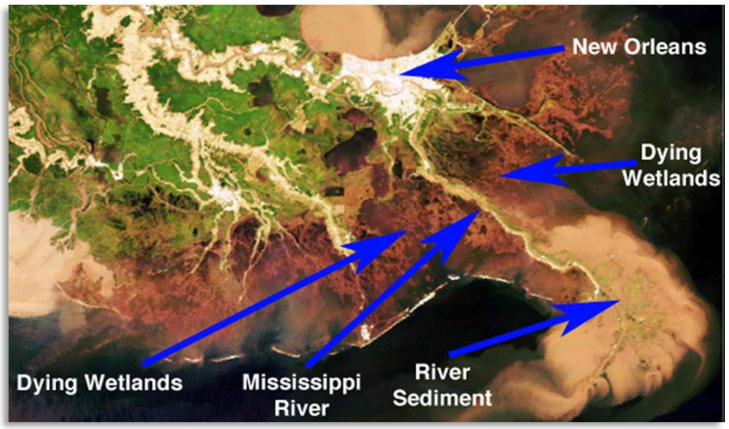
MISSOURI AND MISSISSIPPI

They make their way to the Missouri River, then to the Mississippi River and end up in the Gulf of Mexico and contribute to the Hypoxic (dead) zone.



Pic 1 is where the Missouri and Mississippi rivers meet.
Pic 2 is the Mississippi river heading south
Pic 3 is where the Mississippi river enters the Gulf of Mexico

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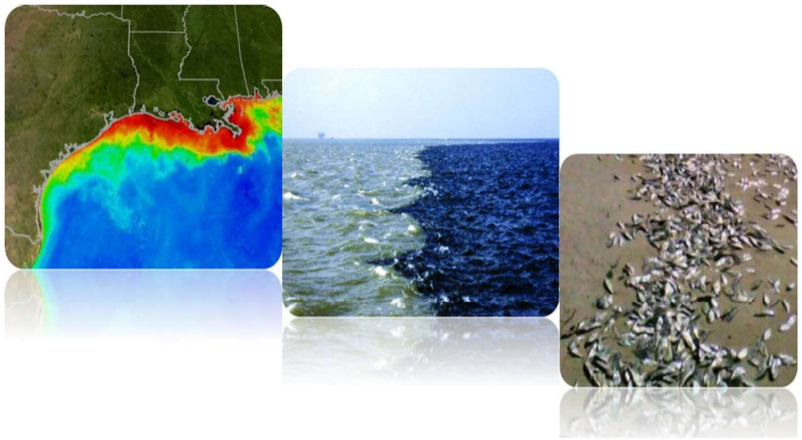
What is the Hypoxic (dead) zone?

The Gulf of Mexico dead zone is an area of Hypoxic waters (less than 2 ppm dissolved oxygen) at the mouth of the Mississippi River where excess nitrogen, phosphorus and pollutants from agriculture runoff, waste water discharges, and other sources triggers rapid algae growth. Its area varies in size, but can cover up to 7,000 square miles. This zone occurs between the inner and mid-continental shelf in the northern Gulf of Mexico, beginning at the Mississippi River delta and extending westward to the upper Texas coast. Fish and other species are sparce to non-existent in this area as it requires 6 to 7 ppm dissolved oxygen to sustain aquatic life.



Rest assured, your efforts to eliminate sediment from leaving your construction site in Lincoln, have far reaching benefits.
It really is a big deal!

Smith Falls, Valentine Nebraska

Nebraska rainbow trout

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Read slide to learn the effects of sediment, pollutants, and chemicals have on aquatic life off the Mississippi coast

Individual Lot (INOI) permit requirements and acknowledgments

Applicants are required to adhere and accept the below listed acknowledgments during the INOI permit application process:

- Submission supersedes any prior Notice of Intent (INOI) and Stormwater Pollution Prevention Plan (SWPPP) for the lot indicated in the application and fulfills the notification and Discharge authorization procedures for individual lots, as required by Lincoln Municipal Code, Chapter 28.01 - Regulations for Construction Site Discharges. The applicant assumes sole responsibility for the building phase of development for this lot.
- All BMPs will be constructed, installed, and maintained according to the minimum standards and specifications set forth in either the City's Design Standards, the NPDES General Permit, or otherwise approved by the Director, and will be in place and in working order prior to any construction activity.
- BMPs will be installed, operated and maintained to protect streams, rivers, ponds and wetlands from sedimentation and a spill prevention plan will be followed for any spills or illicit discharges that may leave the site.
- The construction details, application schedule, procedures, operations, and maintenance of the proposed BMPs are in conformance with the City's Design Standards.
- All BMPs will be inspected by qualified personnel on a routine basis. Any necessary repairs or clean-up to maintain the effectiveness of the BMPs shall be made prior to the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation will be documented in the Site Plan and alternative BMPs will be implemented as soon as possible.
- Sediment deposited into or upon any street, alley, sidewalk, public way, storm drainage system, or public ground will be removed within a reasonable period of time. A contingency plan will be implemented for unforeseen erosion or sediment problems, including emergency situations caused by storms.
- Following any construction activity, final or temporary stabilization shall be completed as soon as practicable, but in no case more than fourteen days, to the surface of all perimeter controls, topsoil stockpiles, and any other disturbed or graded areas on the project site which are not being used for material storage, or on which actual construction activity is not being performed.
- I understand that either the lot will be stabilized by the builder at the end of construction or the homeowner will be informed of the need for final stabilization.
- I understand I assume all responsibility for any disturbance or damage to adjacent property caused by my construction or negligence to protect the site with BMPS (Best Management Practices) for which this permit is being obtained. The adjacent property must be restored to a condition as good, or comparable to, then before the disturbance and/or damage occurred at my expense.
- I certify under penalty of law, that I am familiar with and agree to comply with the terms and conditions provided in this Individual Lot Notice of Intent (INOI) and Stormwater Pollution Prevention Plan (SWPPP) and that I am solely responsible for the individual lot covered by this INOI and SWPPP. I understand that the City of Lincoln is authorized to inspect the site at reasonable times pursuant to Lincoln Municipal Code, Chapter 28.01.

This is what you agree to comply with by signing your INOI (small site) permit

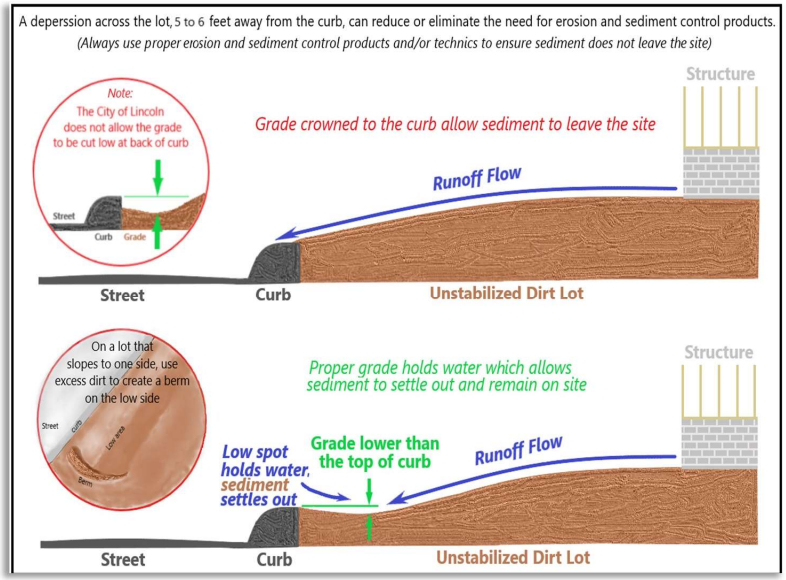
E & SC = Erosion & Sediment Control

Erosion Control is a method to prevent or minimize soil form becoming dislodged and moving and thus reduce the need for sediment controls.

Sediment Control is a practice to keep eroded soil (sediment) from becoming dislodged and leaving a construction site. Small sites, under one acre, primarily focus on sediment control due to the nature of work and the size of the site. The most common ways sediment can leave the construction site is by means of runoff, track out or dewatering. Advanced planning and communication can alleviate these violations. Have what is necessary onsite, such as waddles to be put in place before a rain, a de-watering bag when pumping out a foundation and a shovel to clean up track out.

Communicating the expectations with the subcontractors and delivery drivers that there will be no off street parking in wet weather, and track out from deliveries will be scraped up immediately, can help avoid violations, reinspection fees and building permit holds.

Advanced planning should start before soil disturbance begins. Evaluating the flow pattern on the site and grading the lot accordingly, during the foundation backfill, can reduce or eliminate the need for purchased BMP's.



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Site Inspection

Read your site. It will show you exactly where a BMP or grading is needed.

At first look this site might look bad. But on closer examination of the rill erosion, it is working pretty good. The proper grading is directing water to a low spot at the back of the lot where there is a silt fence just in case there is a high flow situation. In this view there are 3 areas that indicate where water is leaving the site and may need attention, but they show a sheet-flow instead of an eroded area where sediment washed out. The sheet-flow shows that the water was moving slow and not carrying sediment with it. Neither the street nor the back of the lot have sediment leaving the site. This is what your inspector should look at when they are at your site.

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Don’t want me stopping at your site? For very long anyway? Just do the minimum necessary to stay compliant. At the beginning when the foundation is backfilled, have the lot rough graded to direct water where to go. Put in a BMP where necessary. Keep the street and adjoining lots clean of mud run off. Advise you subcontractors, NO OFF-STREET PARKING WHEN IT IS MUDDY

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Read your site. It will show you exactly where a BMP or grading is needed. At first look this site might look kinda bad. But on closer examination of the rill erosion, it is working pretty good. The proper grading is directing water to a low spot at the back of the lot where there is a silt fence just in case there is a high flow situation. In this view there are 3 areas that show where water is leaving the site and may need attention, but they show a sheet flow instead of an eroded area where sediment washed out. The sheet flow shows that the water was moving slow and not carrying sediment with it. Neither the street not the back of the lot have sediment leaving the site. This is what I look at when I am at your site.

12 Steps to compliance for INOI construction sites

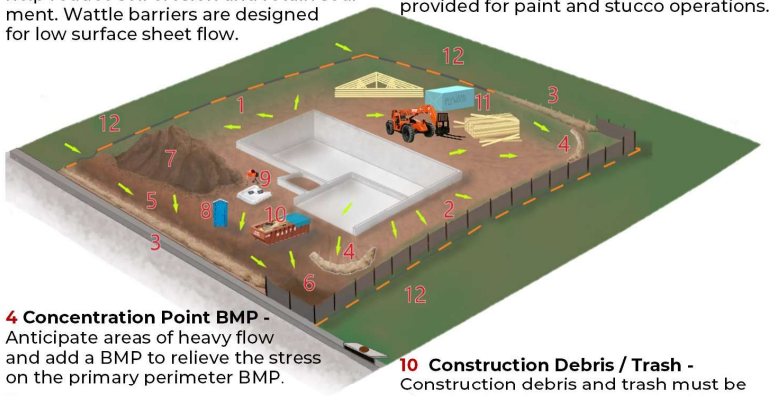
Orange Dashed line represents the lot line for this construction site.

Green arrows show the flow pattern. This construction site has a crown in the middle and a predominate slope from left to right.

1 Vegetated Buffer - Vegetated buffers are areas of either natural or established vegetation that are intended to protect the water quality of neighboring areas.

2 Silt Fence - A silt fence is a temporary solution for sediment barrier consisting of a synthetic fabric stretched across and attached to supporting posts and entrenched or sliced in place. It is better suited for the sides or rear of the lot when a BMP is necessary.

3 Waddle Barrier - Wattle barriers are elongated tubes of compacted straw and/or other fibers that are installed along contours (perpendicular to the flow path) or at the base of slopes to help reduce soil erosion and retain sediment. Wattle barriers are designed for low surface sheet flow.



4 Concentration Point BMP - Anticipate areas of heavy flow and add a BMP to relieve the stress on the primary perimeter BMP.

5 Creative Grading - Grading a depression or berm across the low sides of the site and directing the flow to where you want it is an cost saving effective BMP.

6 Temporary Sediment Trap - A temporary sediment trap is a temporary ponding area formed by constructing an earthen embankment in combination with a depression to detain sediment-laden runoff from disturbed areas long enough to allow most of the sediment to settle out.

7 Stockpiles - Place stockpiles 6' (minimum) from the back of the curb and away from any concentrated flow area. Small piles should be covered to prevent them from washing off site.

8 Portable Toilets - Portable toilet facilities shall be properly secured and located at least 20 feet away from storm drain inlets and at least 10 feet back from the edge of curb and gutter conveyance systems.

9 Concrete/Stucco or Paint Washout - Contractors are required to use designated and marked concrete washout areas on the permitted construction site located at least 50 yards away from storm drains and water sources. Washout areas must also be provided for paint and stucco operations.

10 Construction Debris / Trash - Construction debris and trash must be contained and receptacles should be emptied as needed.

11 Staging areas - Proper building material handling and staging areas shall be established in the construction area when possible. If it is necessary to retrieve materials stored on an adjacent site, any track out into the street should be removed as often as necessary.

12 Adjacent Lots - Avoid encroaching onto the lots adjacent to the construction site. Repair any tracking, BMP's and vegetation that has been disturbed.

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12 steps to compliance for INOI construction sites

The BMP's listed in this manual are intended to provide the minimum control necessary to stay compliant with federal, state and city regulations.

Especially with small sites, the practice of erosion and sediment control, and more over BMP's, are innovative and ever changing.

Make contact with local suppliers and subscribe to their mailing lists for newsletters and new product announcements. Many suppliers hold marketing and product events that are a great source of what is available, cost, and how to use them.

Builders are encouraged to be creative with their products and processes to maintain compliance, but remember, anything you use must be at least as effective as the measures listed in this handbook.

The BMP's in this guide are listed in order from the City of Lincoln **Flood and Water Quality Protection Manual** and can be found on the City's webpage:

www.lincoln.ne.gov, search: INOI

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COMPLY and ***REPLY***

It's your time and money

REPLY to the ***NOTICE TO COMPLY***

email with

PHOTOGRAPHIC EVIDENCE

within the

7 DAY CORECTION PERIOD

to avoid a

$75.00 RENINSPECTION FEE

and a

HOLD on Building & Safety inspections.

A reinspection fee can be assessed every 7 Days of noncompliance or no correspondence to the notice.

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Contact us:

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Thank you for watching this City of Lincoln INOI, small site presentation.