Small Residential Lot Stormwater Pollution Prevention Plan Template

Purpose of This Template

Introduction

To be covered under Iowa Natioinal Pollutant Discharge Elemination System General Permit No.2 (NPDES GP2), all Developers / construction operators are required to develop a "Stormwater Pollution Prevention Plan" (or "SWPPP"). Refer to Part IV of the NPDES GP2. The requirement to develop a SWPPP applies equally to small-scale construction projects as it does to large-scale construction projects if the developing lot is located within a NPDES GP2 covered development. However, the level of detail may vary depending on the nature of a given project. A SWPPP for the construction of a single residential lot may require less detail because such projects are often easily managed with basic best management practices (BMPs). Moreover, these projects are relatively small and are usually completed relatively quickly. Where documentation is required, it can be done in a relatively concise manner, as described in this document. With that in mind, EPA has developed the *Small Residential Lot SWPPP Template that has been modified to incorpate the Iowa DNR's NPDES GP2 requirements*.

Purpose

The *Small Residential Lot SWPPP Template* is a tool to help operators of small residential lot projects develop SWPPP documents that are consistent with requirements in the NPDES GP2. The template was designed with small residential lot projects in mind and therefore is not appropriate for other types of construction projects. A project qualifies as a small residential lot project if it meets the qualifications criteria in the "Who Can Use This Template" section below.

Use of this template is optional. Any operator of a small residential lot project may choose to complete a SWPPP without using this template. If you determine that this template is appropriate for your small residential lot construction project, you are still held responsible for meeting the conditions of the Iowa NPDES GP2, including requirements to submit a Notice of Intent (NOI) to obtain permit coverage, to perform routine site self-inspections, and to submit a Notice of Discontinuation (NOD) to discontinue coverage once the project is completed and final stabilization has been met.

Using the Small Residential Lot SWPPP Template

This template is presented as an editable document file so one can easily add tables and additional text, and delete unneeded or non-applicable fields. Each section of the Small Residential Lot SWPPP Template includes prompts (in blue) to insert information about your project. You must complete all sections of this template in order to comply with Part 4 of the NPDES GP2. Once completed, this Template will serve as your project's SWPPP.

Tips for ensuring that the minimum permit requirements are met:

- Read through this template and the NPDES GP2 thoroughly before preparing your SWPPP to ensure that you have a working understanding of the permit's underlying requirements.
- Complete this SWPPP template *prior* to submitting your NOI for permit coverage. This is required in NPDES Parts II.C.1.G.(1).
- Once you obtain coverage under the NPDES GP2, include your NOI and Authorization Letter, as well as a copy of the NPDES GP2, as attachments to the SWPPP.

While EPA has made every effort to ensure the accuracy of all instructions and guidance in this template, the actual obligations of regulated construction activities are determined by the relevant provisions of the permit, not by the template. In the event of a conflict between this template and any corresponding provision of the NPDES GP2, you must comply with the requirements in the permit. The permit and additional guidance are available at Iowa DNR Website. (Summary Guildance for GP No.2)

Small Residential Lot Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

Project /Site Name: _____

Project Site Location/Address: _____

City, State, Zip Code: _____

Project/Site Contact Number: _____

SWPPP Prepared For:

Company or Organization Name: _____

Name: _____

Address: _____

City, State, Zip Code: _____

Contact Number: _____

Email: _____

SWPPP Prepared By:

Company or Organization Name: _____

Name: _____

Address: _____

City, State, Zip Code: _____

Contact Number: _____

Email: _____

SWPPP Preparation Date:

_____

SWPPP Revision Date (if applicable):

_____

Before proceeding, be advised that you will need to complete the following steps before finalizing your Small Residential Lot SWPPP.

✓ **STEP 1:** **Review the Iowa DNR's NPDES GP2 Construction**

✓ **STEP 2:** **Fill out all sections of this template.**

✓ **STEP 3:** **Print and attach applicable BMP specification sheets [see Appendix] for the following three categories:**

Appendix A: Erosion and Sediment Control Specifications

Appendix B: Stabilization Control Specifications

Appendix C: Pollution Prevention Practice Specifications

Who Can Use This Template?

This template is designed for operators of "Small Residential Lot Projects" seeking coverage under the NPDES GP2. Your project is a "Small Residential Lot Project" for the purposes of this template only if all of the statements in the qualification checklist below are "true". If your project does not meet all of these qualifications, this template is not designed for your project and its use is not appropriate[1].

Qualification Checklist for Use of This Template			
1.	**My project is considered a SMALL RESIDENTIAL LOT PROJECT.** To be considered a "small residential lot project", the following statements must ALL be true (check all that apply): ☐ My project is limited to the construction of residential single family or duplex dwellings; **and** ☐ The area of disturbance associated with each individual single family or duplex dwelling in my project is < 1 acre; **and** ☐ I am not building more than 5 individual single family or duplex dwellings at one time within the same common plan of development or sale; **and** ☐ I am not as part of this project responsible for the construction and/or maintenance of roads (not including driveways) or storm sewer or ditch network.	☐ True	☐ False
2.	**My project is not located in a SENSITIVE AREA.** This will be true if ALL of the following statements are true: ☐ My project will not cause earth disturbances within 50 feet of a "water of the U.S."; **and** ☐ My project will not disturb "steep slopes" (however steep slopes are defined in your locality); **and** ☐ My project will not discharge into an impaired water or a water identified by the state or tribal authority as Tier 2, Tier 2.5, or Tier 3[2]; **and** ☐ There are no threatened or endangered species or critical habitat in the areas directly or indirectly affected by my project[3]; **and**	☐ True	☐ False

[1] If your answer is "false" for any question, you should not use this template. You may instead use EPA's general SWPPP template.

[2] Note: To find if your project discharges to an impaired water, you can conduct a search using EPA's discharge mapping tool. To determine if you discharge to a Tier 2, 2.5, or Tier 3 water, refer to Appendix F of the 2012 CGP or contact your state or tribal authority.

[3] You will know this is true if you can check Criterion A in the threatened and endangered species eligibility section of your NOI. See Appendix D of the CGP for further details.

[4] Refer to site's orginal SWPPP and NPDES General Permit No.2 to ensure you meet the eligibility requirements regarding the protection of historic properties and endanger speices.

	☐ There are no potential impacts to historic properties at my project. This will be true if ONE of the following statements is true:[4] ☐ I am not installing any stormwater controls that require subsurface earth disturbance, such as dikes, berms, catch basins, ponds, ditches, trenches, culverts, channels, perimeter drains, swales; **or** ☐ I am installing stormwater controls that require subsurface earth disturbance, and have determined these controls present no potential impacts to historic properties. ☐ My project does not trigger any Safe Drinking Water Act Underground Injection Control (UIC) requirements referenced in CGP Part 7.2.14.3. This will be true if ALL of the following statements must be true: ☐ I am not installing infiltration trenches (true if stormwater will not be directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system); **and** ☐ I am not installing any commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow; **and** ☐ I am not installing drywells, seepage pits, or improved sinkholes (true if stormwater will not be directed to any bored, drilled, driven shaft or dug hole that is deeper that its widest surface dimension, or has a subsurface fluid distribution system).		
4.	**At my site and during the course of the project, ALL of the following statements are true:** ☐ My project does not have any associated off-site material storage, waste disposal, or borrow areas covered under the NPDES GP2; **and** ☐ No treatment chemicals of any kind, such as flocculants or polymers, will be used to treat pollutants in stormwater; **and** ☐ I will not wash equipment or vehicles on-site; **and** ☐ The project will not require dewatering.	☐ True	☐ False
5.	**I will comply with all applicable requirements imposed by my state or tribal government .**	☐ True	☐ False

SWPPP Contents

Part 1: Site and Activity Description

Instructions: Complete Sections A, B, and C.

- Provide summary details of your project, including the number of homes to be built, the size of the lot on which construction will occur, and the total area of disturbance.
- Provide your best estimate of the dates that construction will start and finish.
- Specify who will be the lead individual(s) at the project who will make sure that you are in compliance with the permit, and have them verify that they have read and understand the permit.

1. A. **Nature of construction activities at this site**

1. This project will result in the construction of Insert # of single family or duplex dwellings to be built (must be 5 or fewer) dwellings in the same common plan of development or sale.

Lot Address	Total Lot Size (Sq/ft.)	Maximum Area of Construction Disturbance (Acres)
1.		
2.		
3.		
4.		
5.		
		Total maximum disturbed area (must be fewer than one acre per lot; fewer than five acres total):

1. B. **Estimated dates that construction will take place**

1. Construction activities on this project will begin on or about: _____ (Note: once the actual date is known, correct the estimated date)
2. All construction activities on this project will be completed on or about: _____ (Note: once the actual date is known, correct the estimated date)

1. C. **Contacts for Stormwater Compliance**

Identify person(s) responsible for compliance with this permit.

Name (Insert Name of Responsible Person)	**Responsibilities** (Insert Responsibility	**I Have Read the IDNR General Permit No.2 And Understand the Applicable Requirements**
1.		☐ Yes Date: _____
2.		☐ Yes Date: _____

Part 2: Allowable Non-Stormwater Discharges

Instructions:

Identify whether any of the following allowable discharges (referred to as "non-stormwater discharges") may occur at your site. Note: If there will be additional types of non-stormwater discharges at your site, those discharges must be covered under a separate NPDES permit.

[NPDES GP2 Part III.A.2]

List of Allowable Non-Stormwater Discharges Present at the Site

Type of Allowable Non-Stormwater Discharge	**Likely to be Present at Your Site?**
Discharge from emergency fire-fighting activities	☐ YES ☐ NO
Fire hydrant flushings	☐ YES ☐ NO
Landscape irrigation	☐ YES ☐ NO
Water used to control dust	☐ YES ☐ NO
Potable water including uncontaminated water line flushings	☐ YES ☐ NO
Routine external building wash down that does not use detergents	☐ YES ☐ NO
Pavement wash waters provided spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.	☐ YES ☐ NO
Uncontaminated air conditioning or compressor condensate	☐ YES ☐ NO
Uncontaminated, non-turbid discharges of ground water or spring water	☐ YES ☐ NO
Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated ground water	☐ YES ☐ NO

Note: You are reminded of the requirement to identify the likely locations of any allowable non-stormwater discharges on site map(s) within PART 7: SITE MAPS. Use the list of checked items above to populate *Map #2: Best Management Practices*.

Reminder: Construction sites that include **equipment or vehicle washing** operations are *ineligible* to use the Small Residential Lot SWPPP Template.

Part 3: Erosion and Sediment Controls

During the course of my project I will use the following controls to minimize erosion and sediment discharges in stormwater. These controls will be designed, installed, maintained, and removed in accordance with the specifications in *Appendix A: Erosion and Sediment Control Specifications*. Location on site for each of these practices is depicted in the attached site maps in Part 7: Site Maps.

Instructions:

Choose which erosion and sediment controls will be used at your site. You must comply with the specifications for design, installation, maintenance, and removal of each BMP in *Appendix A: Erosion and Sediment Control Specifications*. If you wish to outline alternative erosion and sediment control practices, please do so within this section.

[NPDES GP2 III.C.]

(Required for all sites) – Indicates control is required by the NPDES GP2.

(Required based on site characteristics) – Indicates control is dependent on site characteristics. Read permit requirements carefully to determine whether this control applies to your site.

3. A. Preserve Native Topsoil (required based on site characteristics)

Permit requirement: You must preserve native topsoil on your site, unless infeasible. NPDES GP2 Part IV.D.2.A.(2)(c) To comply with this requirement, I will do the following (select one):

- ☐ **I will preserve some portion of the topsoil I remove so that it can be re-applied for vegetative stabilization.** I will use the following soil preservation control to manage and preserve native topsoil on site for later use in stabilizing the site:
- ☐ **Practice ES-1 - Soil Stockpiling and Topsoil Preservation**
- ☐ **It is infeasible to preserve topsoil at my site.** (Provide explanation)

3. B. Perimeter Controls (required for all sites – choose at least one)

Permit requirement: You must install controls along the perimeter of your site that will receive stormwater from your construction activities. NPDES GP2 Part III.C.

To comply with NPDES GP2 Part III.C., I will use the following type of perimeter control(s) at my site (select at least one):

- ☐ **Practice ES-2 - Silt Fence Sediment Barrier**
- ☐ **Practice ES-3 - Filter Sock/Log** (e.g., fiber roll, compost sock, wood mulch sock, bio roll)
- ☐ **Other:** (If you select "Other", describe type of perimeter control that you will use.)

3. C. Sediment Track-Out (required for all sites)

Permit requirement: You must minimize the track-out of sediment onto off-site streets, other paved areas, and sidewalks from vehicles existing your construction site.
To comply with NPDES GP2 Part III.C. I will use the following type of sediment track-out control at my site:

☐ **Practice ES-4 - Stabilized Exit Pad**

3. D. Minimize Dust (required for all sites)

Permit requirement: You must minimize the generation of dust to avoid pollutant discharges to the extent feasible through application of water or other dust suppression techniques.
I will use the following type of dust control at my site:

☐ **Practice ES-5 - Dust Control**

3. E. Minimize Soil Compaction (required based on site characteristics)

Permit requirement: In areas of your site where final vegetative stabilization will occur or where infiltration practices will be installed, you must minimize soil compaction.
To comply with NPDES GP2 Part IV.D.2.A.(2).(c), I will use the following practices to minimize soil compaction(select at least one):

☐ **Practice ES-6 - Protect Areas Reserved for Vegetation and Infiltration**

☐ **Other:** (If you select "Other", describe type of control that you will use.)

_____

3. F. Storm Drain Inlet Protection (required based on site characteristics)

Permit requirement: If you discharge to a storm drain inlet that you have access to, you must install protection measures that remove sediment from your stormwater discharge. NPDES GP2 Part IV.D.2.A.(2)
This control is required on my site:

☐ Yes, because stormwater that leaves my property flows into a storm sewer inlet (without first flowing to a storm pond or other larger-scale control) that I have access to.

☐ No, because stormwater will not flow into a storm sewer inlet that I have access to, or because it flows first into a storm pond or other large-scale control

If "Yes" is checked above, to meet NPDES GP2 Part III.C.1. I will use the following type of sewer inlet protection control (select at least one if required).

Practice ES-7 – Inlet Controls (choose one):

☐ **Block and gravel barrier**
☐ **Sediment control logs**
☐ **Sand or rock bags**
☐ **Filter bag inlet protection**
☐ **Other:** Specify. _____

3. G. Other Erosion and Sediment Controls (required based on site characteristics)

Permit requirement:
If you plan to use other erosion and sediment controls on your site that do not fall under any of the areas already **covered above**, describe them below:

Select the type of stormwater control that will be on your site:

☐ **Wood Mulch Berms (Base 3ft, Hieght 2ft, top 1ft)** ☐ **Other:** _____

☐ **Inlet Protection (type)** _____

Date of installation: _____ (Must be prior to start date of construction)

Design, installation, maintenance, and removal specifications: Describe installation, maintenance and removal proceedures. _____

Repeat "other controls" text as necessary.

Location on site: The attached site map shows where this control will be placed.

Sediment controls will be installed on site by _____ (Select date - must be prior to start date of construction)

Part 4: Site Stabilization

During the course of my project I will use the following controls for temporary and permanent stabilization on my site. These controls will be designed, installed, maintained, and removed in accordance with the specifications in *Appendix B: Stabilization Control Specifications*. Location on site for each of these practices is depicted in the attached site maps in Part 7: Site Maps.

Instructions:

Choose which temporary and permanent stabilization controls will be used at your site. You must comply with the specifications for design, installation, maintenance, and removal of each BMP in *Appendix B: Stabilization Control Specifications*. If you wish to outline alternative site stabilization practices, please do so within this section.

[NPDES GP2 Part IV.2.]

Permit Requirement: Where work on any area of bare soil on your site will not occur for 14 or more days, stabilization measures must be initiated immediately. Stabilization is required when work will permanently cease in this area, or if the cessation of work is only temporary, and construction work in this area will continue in the future. NPDES GP2 Part III.C.3.

4. A. Type of soil stabilization (check all that apply)

Vegetative (select specific type from options below) (**SS** Practices are located in Appendix B):

- ☐ **Practice SS-1 – Seeding**
- ☐ **Practice SS-2 – Sod**

Non-vegetative cover (select specific type from options below):

- ☐ **Practice SS-3 – Erosion Control Blankets or Turf Reinforcement Mats**
- ☐ **Practice SS-4 – Mulching**
- ☐ **Other type of vegetative or non-vegetative stabilization measure not listed above:**

4. B. Deadlines to initiate and complete stabilization

- **Deadline to initiate soil stabilization:** Where work will not occur for 14 or more days in any area of bare soil on my site, I will initiate stabilization on the 1st day that work stops. Any of the following activities qualifies as initiating stabilization:
  1. Prepping the soil for vegetative or non-vegetative stabilization
  2. Applying mulch or other non-vegetative product to the area of bare soil
  3. Seeding or planting the exposed area
  4. Starting any of the activities in 1, 2, or 3 on a portion of the area to be stabilized, but not on the entire area
  5. Finalizing arrangements to have stabilization product fully installed

- **Deadline to complete soil stabilization:** Check the appropriate box below and follow the deadlines that correspond to that box:

  ☐ **The project is located in an arid, semi-arid, or drought-stricken area, and construction will occur during the seasonally dry period or during a period in which a drought is predicted to occur, <u>and</u> you are using vegetative stabilization measures.**

  I will complete the following by the deadlines below:

  - Within 14 calendar days of when work has ceased in the affected area, install temporary, non-vegetative stabilization measures to the extent necessary to prevent erosion, and
  - As soon as practicable given conditions or circumstances at the site, complete all activities necessary to initially seed or plant the area to be stabilized.
  - To achieve final stabilization, the area must be seeded or planted in perennials to provide established vegetation that covers 70 percent or more of the density to prelude erosion.

  ☐ **All other construction projects, other than those described above.**

  I will complete the following as soon as practicable, but no later than 14 calendar days after initiating stabilization measures:

  - For vegetative stabilization, complete all activities necessary to initially seed or plant the area to be stabilized. To achieve final stabilization, vegetation must provide 70 percent or more of the preexisting vegetative cover.
  - For non-vegetative stabilization, complete the application of all non-vegetative measures to the area to be stabilized.

The site map in Part 7 of this SWPPP shows where stabilization will occur on this site. For installation, maintenance, and removal specifications for each BMP, see *<u>Appendix B: Stabilization Control Specifications</u>*.

Part 5: Pollution Prevention Practices

Instructions:

Identify potential pollutants and choose which pollution prevention practices will be used at your site. You must comply with the specifications for design, installation, maintenance, and removal in *Appendix C: Pollution Prevention Practice Specifications*. If you wish to outline alternative pollution control practices, please do so within this section.

[NPDES GP2 Part IV.D.5.]

5. A. Potential Pollutants at this Project Site

Identify the potential pollutant sources on the site (check all that apply)

- ☐ Sediment
- ☐ Paint
- ☐ Fertilizers
- ☐ Plaster
- ☐ Solid waste
- ☐ Treated lumber
- ☐ Pesticides, Herbicides
- ☐ Wastewater from concrete washout/cleanout
- ☐ Wastewater from stucco washout/cleanout
- ☐ Lime
- ☐ Fuel and oil
- ☐ Portable toilet waste
- ☐ Roofing materials

In addition to the above, the following chemicals, compounds, or other pollutant sources will be located at my site during construction (identify any not included in the list above): _____

5. B. Prohibited Discharges

The following discharges are prohibited under the permit, and are considered a violation should any occur. NPDES GP2 Part III.C.6.

1. Wastewater from washout of concrete, and from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials.
2. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
3. Soaps, solvents, or detergents used in vehicle and equipment washing
4. Toxic or hazardous substances from a spill or other release.

In the event that one of these discharges occurs, I will take corrective action consistent with Part 6.c of this SWPPP. (Refer also to 455B.386 of the Iowa Code)

5. C. Pollution Prevention Practices

During the course of my project, I will implement the following practices to minimize pollutant discharges from my site. These controls will be designed, installed, maintained, and removed in accordance with the specifications in *Appendix C: Pollution Prevention Practice Specifications*. Location on site for each of these practices is depicted in the attached site maps in Part 7: Site Maps. Where a practice does not apply to my site because the type of pollutant will not be present during any part of the project, I have indicated that this practice is "N/A" (Not Applicable).

Note: By checking the "Applicable to My Site" box below, you are committing to following the corresponding practice specifications outlined in *Appendix C: Pollution Prevention Practice Specifications.* If you wish to outline alternative pollution control practices, please do so within this section.

Pollutant Sources	**Pollution Prevention Practice** *(See Appendix C for specifications)*	**Applicable to My Site?**
Building products, materials, and wastes	**Practice PP-1 - Materials Storage and Handling**	☑ Yes (required)
Pesticides, herbicides, insecticides, and fertilizers	**Practice PP-1 - Materials Storage and Handling**	☐ Yes ☐ N/A
Diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals	**Practice PP-1 - Materials Storage and Handling**	☐ Yes ☐ N/A
Hazardous or toxic waste	**Practice PP-1 - Materials Storage and Handling**	☐ Yes ☐ N/A
Construction and domestic waste	**Practice PP-2 - Construction and Solid Waste Management**	☑ Yes (required)
Sanitary waste	**Practice PP-3 - Sanitary Waste Management**	☐ Yes ☐ N/A
Washwater from paint, concrete, or other applicators and containers	**Practice PP-4 - Concrete/Stucco Washout Controls**	☐ Yes ☐ N/A

Describe any other pollution prevention practices to be implemented at the site: _____

For any pollution prevention requirements that you indicated are not applicable ("N/A") in the table above, describe why they are not applicable: _____

Insert project specific spill plan and response procedures if applicable.

Part 6: Procedures for Maintenance, Inspections, and Corrective Actions

Instructions:
Identify appropriate procedures for maintenance, inspections, and corrective actions at your site, consistent with the requirements in the NPDES GP2.

[NPDES GP2 Part VI.M.]

6. A. Inspections

Permit requirement: You must conduct a site inspection either (1) once every 7 calendar days. "Unless erosion is evdient or other conditions warrent them, regular inspections are not required on the area that have been stabilized with a perennial vegatative coverage of sufficiant density to prelude erosion." [NPDES GP2 Part VI.D.4.]

Inspector name and qualifications: Insert inspector names and qualifications. See NPDES GP2 Part VIII. for definition of "qualified person" for the purpose of this permit.

Name of SWPPP Inspector:_____
Company:_____
Contact Number:_____
Quilfications:_____

Inspection frequency:

-At least once every 7 calendar days

-Once I have stabilized, with a perennial vegatative coverage of sufficiant density to prelude erosion, the disturbed areas on my site pursuant to Part 4: Site Stabilization, above, I can discontinue weekly inspections.

Areas to be inspected: During each inspection, I will inspect the following areas of my site, as required by the permit:

- Cleared, graded, or excavated areas of the site;
- Stormwater controls (e.g., perimeter controls, exit points) and pollution prevention practices (e.g., pollution prevention practices for vehicle fueling/maintenance and washing, construction product storage, handling, disposal) at the site;
- Equipment storage and maintenance areas;
- Areas where stormwater flows within the site;
- Stormwater discharge points; and
- Areas where stabilization has been implemented.

Inspection report: I will complete an inspection report within 24 hours of completing any site inspection consistent with the report template found at http://www2.epa.gov/national-pollutant-discharge-elimination-system-npdes/stormwater-discharges-construction-activities#resources.

Note: Be sure to attach completed inspection reports to the SWPPP.

6. B. Maintenance

Permit Requirement: You must ensure that all erosion and sediment controls and pollution prevention practices remain in effective operating condition during permit coverage and are protected from activities that would reduce their effectiveness. NPDES GP2 Part IV.D.4.B.4

If I find a problem with a stormwater or pollution control measure, I will:

- ✓ Initiate work to fix the problem immediately after discovering the problem, and complete such work by the close of the next work day, if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance; and
- ✓ Install a new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery where feasible whenever the installation of a new erosion or sediment or pollution prevention control is needed. If infeasible to complete the installation/repair within 7 days, I will document why it is infeasible to complete the installation or repair and the modified schedule.

6. C. Corrective Action.

Permit Requirement: You must complete corrective actions in accordance with the permit's deadlines.

Required Corrective Action(s): I will immediately take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events. I will conduct corrective action(s) for each of the following triggering conditions should they occur at my site.

- ✓ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements of the permit
- ✓ I became aware that discharges are not meeting applicable water quality standards
- ✓ A prohibited discharge is occurring or has occurred
- ✓ An Enforcement Authority Officier requires corrective actions as a result of a permit violation found during an inspection

Corrective action report: For each corrective action taken, I will decomunt it in the "Site Activity Log" of the SWPPP

6. D. Training.

Permit Requirement: Prior to the commencement of earth-disturbing activities or pollutant generating activities, you must ensure that personnel described in Part 6.A. of the SWPPP understands the requirements of the NPDES GP2 and their specific responsibilities with respect to these requirements.

Documentation for Completed Training:

Course Name (printed)	Certification Title	Date Aquired:
Course Name (printed)	Certification Title	Date Aquired:

Part 7: Site Maps and Drawings

Instructions:

For each map template, include a depiction of each bulleted item, as applicable.

Explanation: The NPDES GP2 requires operators to provide a map or series of maps identifying property boundaries, locations of earth-disturbing activities, locations of final structures and surfaces that will be left impervious upon completion of project, locations of all surface waters within the immediate vicinity of the site, stormwater discharge locations, locations of potential pollutant-generating activities, locations of erosion and sediment controls, stormwater control measures, and other BMPs.

NPDES GP2 Part IV.D.1.D.

Before you continue, be sure to review the series of **EXAMPLE SITE MAPS** provided in **APPENDIX D** of this guide.

(If you rather submit a separate site plan, please make sure that all required fields/ items listed under Map #1 & 2 are properly depict.

MAP #1 – Pre-Construction

Use this map to depict:

- ✓ Boundaries of your site
- ✓ Storm drain inlets
- ✓ Topography of the site, existing vegetative cover, and drainage patterns onto, over, and from the site property
- ✓ Any slope greater than 25% (4:1 slope)
- ✓ Locations where construction activities and earth-disturbing activities will occur (e.g., limits of disturbance, building footprint)
- ✓ Flowpath of stormwater across site during pre-construction

MAP #2 – Best Management Practices

Use this map to depict:

- ✓ Location of designated areas (with clear signage in English and, as appropriate, Spanish) for **waste disposal**, **chemical/hazardous/construction materials storage**, and **stucco/concrete washout.**
- ✓ Locations of structures and/or other impervious surfaces to be constructed
- ✓ Locations of all potential pollutant-generating activities
- ✓ Locations and names of all erosion and sediment controls
- ✓ Locations of all temporary and/or permanent stabilization controls
- ✓ Locations of all pollution prevention controls
- ✓ Drainage patterns onto, over, and from the site property after major grading activities
- ✓ Allowable non-stormwater discharges (refer to Part 2 of this template)

Additional Requirements Imposed by a State or Tribal Authority

☐ I will comply with any additional requirements imposed by the state or tribal authority for my small residential lot project.

Attachments

☐ I have included a copy of my Notice of Intent (NOI) and authorization email as well as a copy of the IDNR NPDES General Permit No.2 as attachments to this SWPPP.

Owner SWPPP Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (printed)	Title	Signature	Date

Contractor / Subcontractor SWPPP Certification Statement

I will have all contractors and subcontractors whose duties on site include land disturbance activity, SWPPP inspections, erosion and sediment control practices (implementation, mainteance, and removal practices), and good housekeeping practices to sign a copy of the certifiaction statement, referenece in Part IV.D.7.B. of the NPDES GP2, prior to conducting any activity on site. (Copies of the signed certification statements must be included in the SWPPP.)

(A copy of the Certifiaction Statment Form is on the following page)

Contractor Certifications/Agreement

CONTRACTOR / SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Name or Location: _____

NPDES General Permit #2 Authorization Number : _____

Name of Onsite General Contractor: _____

As a contractor/subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available upon request.

Each contractor/subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

Signature: _____

Title: _____

Date: _____

SWPPP APPENDICES

Appendix A – Erosion and Sediment Control Specifications

Appendix B – Stabilization Control Specifications

Appendix C – Pollution Prevention Practice Specifications

Appendix D – Example Site Maps

Appendix E – Copy of the Construction General Permit

Appendix F – Copy of NOI and EPA Authorization Email

Appendix G – Completed Inspection Reports

Appendix H – Completed Corrective Action Reports

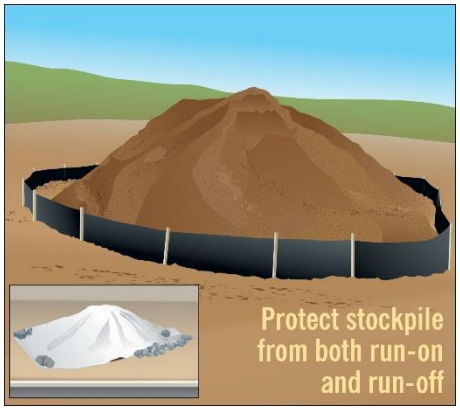
BMP APPENDIX CONTENTS

Appendices A, B, and C provide specifications for typical small residential lot construction BMPs. Indicate which controls you selected for your site, and the date you will install and remove each selected control. Note, some controls are mandatory.

Practice Number	 **APPENDIX A: Erosion and Sediment Control Specifications**	Included in this SWPPP?	Date of Installation	Date of Removal
ES-1	Soil Stockpiling and Topsoil Preservation	☐ YES ☐ NO		
	Perimeter Controls	☒ YES (REQUIRED)		
ES-2	• Silt Fence Sediment Barrier	☐ YES ☐ NO		
ES-3	• Sediment Filter Log	☐ YES ☐ NO		
ES-4	Stabilized Exit Pad	☒ YES (REQUIRED)		
ES-5	Dust Control	☐ YES ☐ NO		
ES-6	Protect Areas Reserved for Vegetation and Infiltration	☐ YES ☐ NO		
ES-7	Inlet Controls	☐ YES ☐ NO		
Practice Number	 **APPENDIX B: Stabilization Control Specifications**	**Included in my SWPPP?**	**Date of Installation**	**Date of Removal**
	Vegetative Controls			
SS-1	• Seeding	☐ YES ☐ NO		
SS-2	• Sod	☐ YES ☐ NO		
	Non-vegetative Controls			
SS-3	• Erosion Control Blankets or Turf Reinforcement Mats	☐ YES ☐ NO		
SS-4	• Mulching	☐ YES ☐ NO		
Practice Number	 **APPENDIX C: Pollution Prevention Practice Specifications**	**Included in my SWPPP?**	**Date of Installation**	**Date of Removal**
PP-1	Materials Storage and Handling	☒YES (REQUIRED)		
PP-2	Construction and Solid Waste Management	☒YES (REQUIRED)		
PP-3	Sanitary Waste Management	☐ YES ☐ NO		
PP-4	Concrete/Stucco Washout Controls	☐ YES ☐ NO		

Note: The specification sheets from Appendix A, B, and C included in your SWPPP should correspond to the controls you selected in Parts 1-7 of the EPA's *Small Residential Lot SWPPP Template*. Remove any controls not applicable to your site.

Soil Stockpiling and Topsoil Preservation (ES-1)



Application of silt fencing to control muddy runoff from soil stockpile. Leaving a site with quality soil encourages healthy root growth and reduces time and resources needed to care for turf and landscape plantings.

Silt fence around soil stockpile.
Photo credit: Barry Tonning, Tetra Tech

Use: Protect soil stockpiles from contact with rainwater and/or runoff, and preserve native topsoil.

Location: Locate stockpiles away from storm inlets, conveyances, or other channelized flow. Locate topsoil stockpiles where they will not erode or block drainage structures, site entrances, or access to waste disposal areas.

Design criteria:

General soil and sediment stockpile criteria:

- Site operator(s) must protect stockpile from contact with stormwater (including water run-on) and/or prevent muddy runoff being discharged from the stockpile using a temporary perimeter sediment barrier. See (*ES-2, Silt Fence Sediment Barrier* and *ES-3, Sediment Filter Log*). If stockpile will be left uncovered for more than 14 days, apply temporary mulch or seed (see *SS-1, Vegetative Stabilization – Seeding*). For smaller stockpiles, plastic sheeting or tarps may be used. Unless infeasible, securely protect the stockpile from wind erosion (see *ES-5, Dust Control*).

Removing topsoil:

- Prior to stripping away topsoil (typically the first 4 to 6 inches of soil), ensure that all downslope erosion and sediment controls and upslope run-on diversions are in place. Avoid stripping topsoil from areas that will not be disturbed by excavation, grading, filling, or road building.

Topsoil storage:

- Where disturbance to native topsoil will occur at your site, unless infeasible, you should stockpile and reuse it in areas that will be stabilized with vegetation. To maximize the native topsoil's continued function, when stockpiling native topsoil, you should mound the soil and cover to prevent soil erosion and weed growth. Uncovered stockpiles should be protected with a sediment barrier (e.g., silt fence, sediment filter log) around the downslope perimeter of the stockpile. As a guideline, soil should be mounded to a height of no higher than 4 feet for less than 1 year, and preferably for less than 6 months.

Reapplying Topsoil:

- Prior to placing topsoil in desired location, verify that subgrade has been graded and is structural stable. Perform pH tests whenever possible prior to soil placement in order to determine whether soil amendments or treatments are necessary to support vegetation growth.
- Loosen subgrade to a depth of 3 inches by disking or scarifying to ensure that topsoil bonds with underlying earth. Apply a minimum of 4 inches of topsoil. Do not spread topsoil when subgrade is wet or frozen.

Maintenance/Removal:

- See perimeter sediment barrier maintenance specifications (*ES-2, Silt Fence Sediment Barrier and ES-3, Sediment Filter Log*).
- Do not hose down or sweep leftover soil or sediment accumulated on pavement or other impervious surfaces into any storm drains or surface waters.

Silt Fence Sediment Barrier (ES-2)

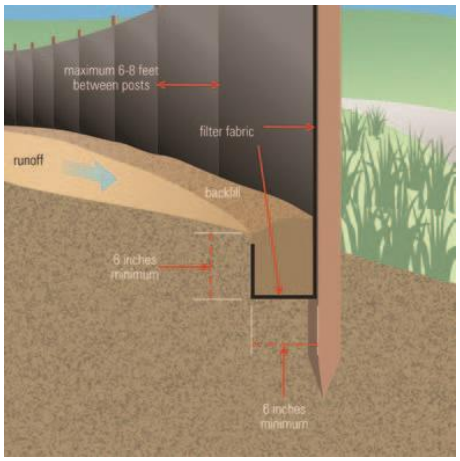


Illustration of a proper silt fence installation.

Site with properly installed silt fence. Note that fence posts are installed on the downhill side of the fabric. Photo credit: Barry Tonning, Tetra Tech

Ensure silt fence is dug into ground to prevent runoff from escaping underneath. Photo credit: John Kosco, Tetra Tech

Use: Intercept runoff from the site, and settle out or filter sediment.

Location: Downhill from bare soil or other disturbed areas.

Design criteria:

- Dig trench 4-8 inches deep just inside the downhill lot lines.
- Make sure ends of trench are turned uphill, to prevent by-pass.
- Install silt fence fabric so that posts/stakes are on the downhill side.
- Install silt fence posts/stakes in trench, against downhill trench wall.
- About 6-8 inches of fabric should hang below grade in the trench.
- Backfill trench (with fabric in it) on the uphill side – tamp down the fill.

Maintenance:

- Check for bypasses and undercutting after rainstorms.
- Use additional stakes to firm up bypass or undercut areas.
- Remove sediment before it reaches halfway up the exposed fabric.
- Inspect the silt fence in accordance with Part 6 of this SWPPP, and repair undercut/bypass areas.
- If a complete replacement or a new control is required, complete and make operational within 7 calendar days where feasible.

Tips:

- Silt fence should intercept and pond runoff water.
- Install around entire downhill perimeter of disturbed area.
- There is no need to install uphill from disturbed or bare soil areas.

Removal:

- Silt fences are temporary – remove when uphill area is stabilized.
- Stabilization means all bare soil is vegetated, paved, mulched, etc.
- After removal, dress up or seed/mulch silt fence area.
- Remove and properly dispose of or recycle silt fence fabric from the site, or store for later reuse.

Sediment Filter Log (ES-3)

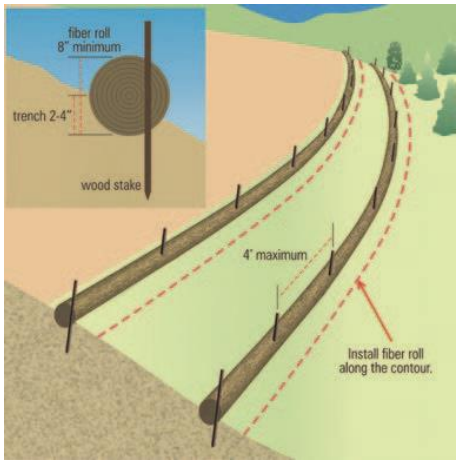


Illustration of filter log installation.

Drive stakes every 3-4 feet along the filter log.
Photo credit: Barry Tonning, Tetra Tech.

Make sure filter log stakes are spaced to prevent undercutting or bypasses. Leave stake tops extended along sections to prevent drive-overs.
Photo credit: Barry Tonning, Tetra Tech

Use: Intercept and contain muddy runoff to trap sediment. Includes fiber rolls, sediment logs, bio rolls, etc.

Location: Downhill from bare soil or other disturbed areas.

Design criteria:

- Grade area where the fiber roll will be located.
- Dig a 3-inch deep rounded trench around the downhill lot perimeter.
- Install filter log in the trench, pressing firmly into place.
- Place a 2" layer of compacted fill material on the upslope side of the log to prevent undercutting.
- Pull filter log gently when driving stakes – do not stretch!
- Drive stakes through the filter log every 3-4 feet; leave 3 inches above roll.
- Use 24-inch stakes in soft soil, and 18-inch stakes in harder ground.
- Ensure maximum area draining to the filter log is less than one acre.
- Use larger diameter filter log for steeper sites or high-runoff areas.

Maintenance:

- Check for bypasses and undercutting after rainstorms.
- Use additional stakes to firm up bypass or undercut areas.
- Remove sediment before it reaches halfway up the exposed filter log.
- Inspect the sediment filter log in accordance with Part 6 of this SWPPP, and repair undercut/bypass areas.
- If a complete replacement or a new control is required, complete and make operational within 7 calendar days where feasible.

Tips:

- Filter logs are intended for relatively flat or slightly rolling terrain.
- Use silt fencing in areas where slopes are long or steep.
- Do not drive over filter log sections.

Removal:

- Remove filter logs after all bare areas have been sodded/seeded.
- Grade and sod or seed/mulch area where filter log was installed.

Stabilized Exit Pad (ES-4)

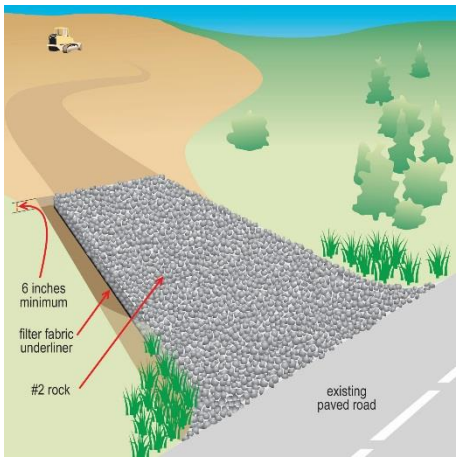


Illustration of stabilized exit pad.


Good application of rock exit pad. Note short section of material against curb that is keeping rock from leaving site. Photo credit: John Kosco, Tetra Tech.


Rumble pad construction exit. Photo credit: John Kosco, Tetra Tech.

Use: Temporary gravel construction entrance to prevent muddy tires/wheels from tracking sediment onto paved roads.

Location: Any point where traffic enters or leaves a construction site onto a paved public right-of-way, street, or parking area.

Design criteria:

- Install non-woven geotextile on graded soil to support the exit pad.
- Rock should be large enough to prevent muddy track-out at the exit.
- Spread rock evenly over geotextile.
- Thickness of the pad shall not be less than 6 inches.
- Grade the exit pad (usually where the driveway will be located) so that muddy runoff does not flow onto streets or into storm drains.
- Divert runoff from exit pad to grassy areas for infiltration, if possible.

Maintenance:

- Apply new rock or remove mud and dirt clods to keep pad clean.
- If mud or dirt clods have been tracked-out from your site onto the surface of streets, other paved areas, or sidewalks, remove by the end of the same work day.
- Remove track-out by sweeping, shoveling, or vacuuming the impervious surface. Do not hose or sweep tracked-out sediment into any stormwater conveyance or catch basin inlet.
- If a complete replacement or a new control is required, complete and make operational within 7 calendar days where feasible.

Tips:

- Restrict vehicles and equipment from muddy areas of the site if possible.
- Limit traffic onto and off site by parking vehicles on street if possible.

Removal:

- Pave over, or remove and stabilize the exit pad, when construction is completed.

Dust Control (ES-5)

Straw mulch can be used to both prevent erosion and minimize dust from a site. Photo credit: Barry Tonning, Tetra Tech.

Use: Prevent fine-grained sediments from being blown away by wind to off-site areas or other on-site areas where they could subsequently be washed into surface waters.

Location: Areas where exposed soil is vulnerable to wind erosion.

Design criteria:

Select control measures from the following list:

- *Sprinkling/Irrigation*. Sprinkle the ground surface with water until moist.
- *Vegetative Cover*. Use seed, sod, and/or other vegetative cover to stabilize areas that generate airborne dust. Follow requirements in *SS-1, Vegetative Stabilization - Seeding* or *SS-2, Vegetative Stabilization - Sod*, as applicable. Note: this is an effective method in areas not expected to handle vehicle traffic.
- *Mulch*. Follow specifications provided in *SS-4, Non-Vegetative Stabilization - Mulching*. Note: this is a quick and effective means of dust control for recently disturbed areas.
- *Wind Breaks*. Wind breaks are barriers (either natural or constructed) that reduce wind velocity through a site and, therefore, reduce the possibility of suspended particles. Wind breaks can be trees or shrubs left in place during site clearing or constructed barriers such as a wind fence, snow fence, tarp curtain, hay bale, crate wall, or sediment wall.

Maintenance:

- Inspect any installed controls regularly for deterioration to ensure that they are still achieving their intended purpose.
- Dust control measures must be modified or upgraded if site inspection shows evidence of wind erosion.

Tips:

- Phasing construction activities to minimize the total area disturbed at any one time can greatly reduce problematic dust on site.

Protect Areas Reserved for Vegetation and Infiltration (ES-6)

Protect vegetated areas using fencing or similar barriers. Include signage to notify workers not to enter the area.

Use fencing and signage to ensure workers know not to disturb protected areas. Photo credit: Barry Tonning, Tetra Tech.

Signage for tree protection area. Photo credit: John Kosco, Tetra Tech.

Use: Protect areas where vegetative stabilization or infiltration practices (e.g., rain gardens, bioswales, septic system drainfields) will be installed from excessive compaction.

Design criteria:

- Before the start of construction, identify protected and minimal disturbance areas with adequate signage in relevant languages (English, Spanish, etc.) and/or fencing.
- Train staff to avoid traffic and other impacts to protected areas.
- Indicate protected/minimal disturbance areas on site maps/drawings.
- Conduct soil restoration (i.e., conditioning) for areas that are not adequately protected or have been degraded by previous activities.

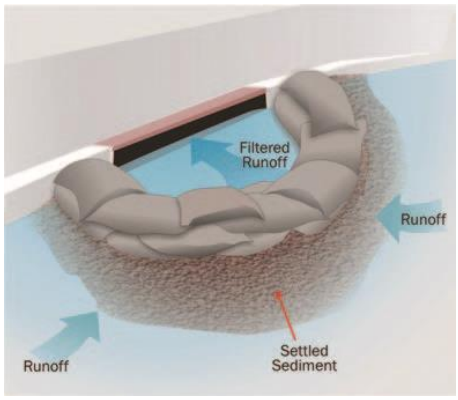
Maintenance:

- Replace fencing or signage as needed.

Tips:

- Provide adequate signage in relevant languages (English, Spanish, etc.) directing vehicle traffic on site.
- Clearly mark site entrance and exit, as well as drop-off areas for materials delivery and waste pickup.

Inlet Controls (ES-7)



Typical inlet protection that allows sediment to settle out before stormwater is discharged to the storm drain.

Typical filter bag inlet protection installation. Photo credit: Barry Tonning, Tetra Tech

Typical rock bag inlet protection installation. Photo credit: Barry Tonning, Tetra Tech

Use: Prevent soil and debris from entering storm drain inlets.

Design criteria:
To function effectively, inlet protection measures must be installed to ensure that flows do not bypass inlet protection and enter the storm drain without treatment. However, designs must also enable the inlet to function without completely blocking flows in a manner that causes localized flooding. There are several types of effective inlet protection:

- *Block and gravel barrier:* Place two concrete blocks on their sides perpendicular to the curb at either end of the inlet opening. These will serve as spacer blocks. Place concrete blocks on their sides across the front of the inlet and abutting the spacer blocks. The openings in the blocks should face outward, not upward. Cut a 2-by-4 inch stud the length of the curb inlet plus the width of the two spacer blocks. Place the stud through the outer hole of each spacer block to help keep the front blocks in place. Place wire mesh over the outside vertical face (open ends) of the concrete blocks to prevent stone from being washed through the blocks. Use chicken wire, hardware cloth with 1/2 inch openings, or filter fabric. Place 3/4 -1 1/3 inch gravel against the wire to the top of the barrier.
- *Sand or rock bags*: Place these barriers on gently sloping streets where water can pond. Bag should be of woven-type or mesh geotextile fabric since burlap bags deteriorate rapidly. Fill the bags with 3/4 inch drain rock or 1/4 inch pea gravel. Do not fill bags completely, so they will form a tight seal when packed in a row. Place the bags in a curved row from the top of curb at least 3 feet into the street. The row should be curved at the ends, pointing uphill. Several layers of bags should be overlapped and packed tightly. Leave a one-bag gap in the top row to act as a spillway. Once the small catchment areas behind the bags, or block and gravel, fill with sediment, future sediment-laden runoff will enter the storm drain without being de-silted. Therefore, sediment must be removed from these structures during or after each storm. Additional storage can be obtained by constructing a series of bag barriers along the gutter so that each barrier traps small amounts of sediment.
- *Sediment control logs*: There are a variety of proprietary products available for "curb sock" or sediment control bag inlet protection. If proprietary products are used, design details and installation procedures from the manufacturer must be followed.
- *Filter bag inlet protection*: Wherever filter bags are used they should be installed according to manufacturer's specifications. Ensure that the accompanying sand bag, filter log, or compost sock extends beyond the inlet opening. Filter bags should be cleaned and/or replaced when the bag is half full or when flow capacity has been reduced so as to prevent flooding or bypassing of the inlet. Needed repairs should be initiated

immediately after the inspection, and a supply of replacement filter bags should be kept on site.

Maintenance:

- To prevent clogging, storm drain control structures must be maintained frequently.
- Check all temporary inlet control measures on a weekly basis and after each storm event.
- Clean, or remove and replace, the inlet control as sediment accumulates, the filter becomes clogged, or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet control, the control shall be removed by the end of the same work day in which it was found or by the end of the following work day if removal by the same work day is not feasible.

Tips:

- For best results, stabilize areas draining to the inlet as soon as feasible, to reduce the amount of sediment flowing toward the inlet.
- Inlet protection measures may be removed in flood conditions where a clogged inlet may result in endangerment to public safety.

Vegetative Stabilization – Seeding (SS-1)

Use: Establish perennial, vegetative cover in areas of bare soil for stabilization.

Design criteria:

- For all sites, except those located in arid or semi-arid areas, provide established uniform vegetation (evenly distributed without large bare areas), which provides 70 percent or more of the density of coverage that was provided by vegetation prior to commencing construction. For final stabilization, vegetative cover must be perennial.
- For sites located in arid, semi-arid, or drought stricken areas, the area of exposed soil must be seeded so that within 3 years, 70 percent or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities is established.

Installation:

- Soil should be capable of supporting permanent vegetation.
- Where compacted soils occur, they should be broken up sufficiently to create a favorable rooting depth of 6-8 inches. Organic compost can serve as a viable soil amendment. If compost is used, make sure to use well decomposed, stable, weed free organic matter source. Avoid the use of invasive species in seed stock.
- Rake soil surface smooth prior to seeding, sprigging, sodding, or hydroseeding.
- Install any erosion control practices, such as diversions or berms, to protect the seeded area.
- Spread lime and fertilizer as needed and appropriate for the soil type. To minimize discharges of nutrients in stormwater, apply fertilizers at a rate and in amounts consistent with manufacturer's specifications and at the appropriate time of year for your location.
- Immediately after seeding the area, to the extent necessary to prevent erosion of the seeded area, install non-vegetative stabilization measures to protect the area during growth of the vegetation. Follow the appropriate installation requirements and other specifications for such measures at *SS-3, Non-Vegetative Stabilization - Erosion Control Blankets or Turf Reinforcement mats* and *SS-4, Non-Vegetative Stabilization - Mulching*. For arid, semi-arid, and drought-stricken areas, the non-vegetative cover must be designed to last 3 years without active maintenance.
- Water as necessary to ensure proper seed germination. Avoid excessive watering, which can result in washing seeds away or in seed clumping.

Maintenance:

Inspect all seeded areas for failures and make necessary repairs, replacements, reseeding, and remulching within the planting season. If vegetation is inadequate to meet the 70 percent cover criteria, reseed, fertilize, and remulch. Water as necessary.

Vegetative Stabilization – Sod (SS-2)

Photo of sod being installed at a residential site.
Photo credit: Barry Tonning, Tetra Tech

Sod installation failure. Sod needed staples.
Photo credit: Barry Tonning, Tetra Tech

Use: Provide immediate perennial, vegetative cover on areas of bare soil for stabilization.

Design criteria:

- For all sites, except those located in arid or semi-arid areas, provide an established uniform vegetation (evenly distributed without large bare areas), which provides 70 percent or more of the density of coverage that was provided by vegetation prior to commencing construction.
- For final stabilization, vegetative cover must be perennial.

Installation:

- Ensure soil is capable of supporting permanent vegetation.
- Where compacted soils occur, they should be broken up sufficiently to create a favorable rooting depth of 6-8 inches. See *ES-6, Protect Areas Reserved for Vegetation and Infiltration* for soil conditioning specifications. Organic compost can serve as a viable soil amendment. If compost is used, it shall be of a well decomposed, stable, weed free organic matter source.
- Use sod appropriate for the climate, topography, and soil type. Do not apply sod during very hot or wet weather.
- Lay strips of sod beginning at the lowest area to be sodded and perpendicular to the direction of water flow. Wedge strips securely into place. Square the ends of each strip to provide for a close, tight fit.
- Roll or compact immediately after installation to ensure firm contact with the underlying topsoil. Install staples where sod might move because of water flow.
- When sodding is carried out in alternating strips or other patterns, seed the areas between the sod immediately after sodding.
- Water as necessary. Sod must be established as cover prior to terminating permit coverage.

Maintenance:

- Inspect sod frequently after it is first installed, especially after large storms, for failures and make necessary repairs until it is established as cover. If it is impossible to establish a healthy groundcover due to frequent saturation, instability, or some other cause, remove the sod, seed the area with an appropriate seed mix, and protect area with a net or blanket.
- Remove and replace dead sections of sod.

Non-Vegetative Stabilization – Erosion Control Blankets or Turf Reinforcement Mats (SS-3)

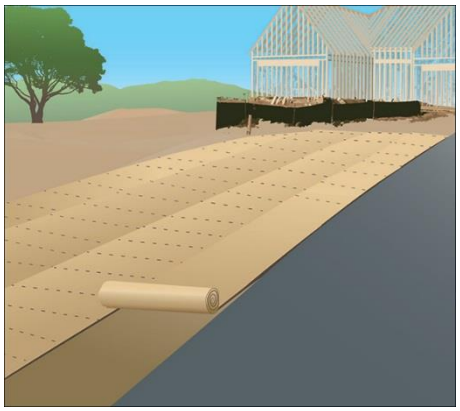


Illustration of slope stabilization using erosion control blankets.

Use:

Establish temporary stabilization for areas of bare soil. Typically used in combination with seeded or planted vegetation to stabilize or provide reinforcement for disturbed areas where plants are slow to develop and to provide temporary cover where work will continue at a later date.

Design criteria:

Note: Erosion control blankets and turf reinforcement mats must not be used for permanent stabilization, unless being combined with seeded or planted vegetation.

- If being used to stabilize disturbed areas during the establishment of seeded or planted vegetation, apply cover to all areas of exposed soil and seeding where vegetation will grow.
- If being used as a temporary stabilization measure prior to continuing construction, evenly distribute the geotextile, mat, or blanket so that it covers all areas of exposed soil.

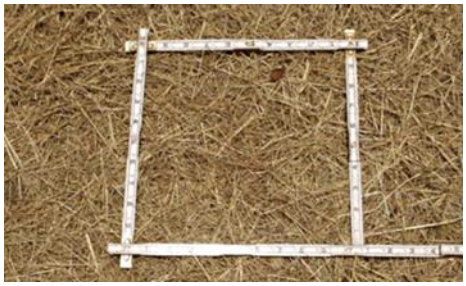
Installation:

- Select materials for the mat or blanket that are appropriate for site conditions (e.g., use degradable straw blanket with cotton thread if area will be mowed short; use permanent turf mats on steeper slopes where vegetation will be taller).
- Grade and shape the area of installation.
- Remove all rocks, clods, vegetation, or other obstructions so that the installed cover will have complete, direct contact with the soil. Note: If good ground contact is not achieved, runoff can concentrate under the product, resulting in significant erosion.
- Install in accordance with manufacturer's specifications.
- If the mat or blanket is being used to protect an area being seeded or planted, seed or plant and apply any lime and fertilizer to the area before installation of the mat or blanket, as appropriate.
- Starting at the highest point, roll blanket sections downwards in the direction of water flow. Anchor the mat or blanket after it is set in place. Use anchors that are long enough and have sufficient ground penetration to resist pullout, such as U-shaped wire staples, metal stake pins, or triangular wooden stakes. Blanket sections must overlap by at least 6 inches.

Maintenance:

- Maintain good contact with the ground. Periodically check to ensure that erosion does not occur beneath the net or blanket.
- Repair and staple any areas of the mat or blanket that are damaged or not in close contact with the ground. Fix and protect eroded areas if erosion occurs due to poorly controlled drainage.

Non-Vegetative Stabilization – Mulching (SS-4)



Example of adequate mulch coverage on 1sq.ft area. Photo credit: Maine DOT.

Slope stabilization using mulch and mulch nets. Photo credit: Barry Tonning, Tetra Tech

Use: Provide temporary stabilization of soil, increase infiltration, prevent soil compaction and decrease surface runoff. Used in conjunction with vegetative stabilization controls such as seeding, mulching can foster vegetative growth.

Design criteria:

- Apply mulch to any part of the site where soil has been disturbed and protective vegetation has been removed.
- On steeper slopes where the mulch is susceptible to movement by wind or water, mulch material should be hydraulically applied or the straw mulch should be appropriately anchored.
- Mulch should not be applied more than 2 inches deep on seeded sites, unless it is incorporated into the soil by tracking, disking, or other 'punching in' techniques.
- Mulch is not to be used in areas of concentrated flow.

Installation:

- Evenly distribute mulch on the soil surface, by machine or by hand to the desired depth.
- For applying straw to seeded sites, apply 1.5-2 tons/acre, 1-2 inches deep, covering 80% of the soil surface. For applying straw to unseeded sites:, apply 2-3 tons/acre, 2-4 inches deep, covering at least 90% of the soil surface. For bark mulch, apply at a rate of approximately 6 tons/acre, at a depth of 2-3 inches. For hydraulic mulch mix, apply at rate of 1.5 tons/ac, mixed with seed and fertilizer, at recommended rates, in order to achieve uniform, effective coverage.
- Anchor mulch as necessary to minimize loss by wind or water. Common anchoring techniques for hay or straw include crimping, tracking, disking, or punching into the soil, and spraying with asphaltic or organic tackifier.

Maintenance:

If properly applied and anchored, little additional maintenance is required in the first 2-3 months. After high winds or significant rainstorms, mulched areas should be checked for adequate cover and re-mulched if necessary.

Other tips:

Hay mulch has potential for introducing weed seed (unwanted plant material). Straw tends to contain very few seeds and thus is less likely to contaminate the site. On small sites (e.g., under one acre), where straw has been distributed by hand, it can be anchored by hand by punching it into the soil every 1-2 feet with a dull, round-nosed shovel.

Materials Storage and Handling (PP-1)

Shelter used to protect materials from rain. Secondary containment used to capture any spills.

Cover materials using tarps or plastic sheeting to prevent precipitation from contacting construction site materials. Direct work crews to replace material stockpile covers at the end of the day and before rain. Photo credit: Barry Tonning, Tetra Tech

Use: Prevent the discharge of leached pollutants and contaminated runoff from construction material stockpiles, chemicals, and hazardous waste.

Design criteria:

- Designate separate waste collection areas for hazardous waste, construction waste, and domestic waste. Choose areas that do not receive a substantial amount of runoff and do not drain directly to a waterbody.
- Provide adequate signage marking each area in relevant languages (English, Spanish, etc.).
- Always unload and store materials away from storm drains and ditches.
- Use tarps, plastic sheeting, or other cover to protect stored construction materials. Use rope, bungee cords, heavy tape, etc. to secure tarps against wind.

Fuel, hazardous waste, chemicals and fertilizers:

- Store fuel, hazardous waste, and chemical products in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion. Provide cover from rain, or provide a similarly effective means to prevent pollutant discharges. Provide secondary containment where necessary (e.g., spill berms, decks, and spill containment pallets).
- Label chemicals in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements. Comply with all application and disposal requirements on any applicable labels.
- Apply pesticides, herbicides, and fertilizers only as necessary, and at rates and in amounts consistent with manufacturer's specifications, or document differences where appropriate. Apply fertilizers appropriately for the location, coinciding as closely as possible with maximum vegetation uptake and growth.
- Clean up spills immediately. For hazardous materials, follow clean up instructions on the package. Use dry, absorbent clean-up methods where possible, such as sawdust or kitty litter, to contain the spill. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent further discharges.

Maintenance:

- Check downhill locations for storm drains and make sure they are protected.
- Direct staff to replace tarps and covers daily, especially before rain.

Tips:

- Coordinate with other site operators to ensure availability of clean up supplies.
- Know who to call – and their phone numbers – if major spills occur.

Construction and Solid Waste Management (PP-2)

Designate waste collection areas on-site and provide adequate signage in English and Spanish.

Use: Reduce potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

Design criteria:

- Designate separate waste-collection areas on site for construction, domestic and hazardous waste. Locate waste collection areas away from streets, gutters, watercourses, and storm drains. Provide adequate signage in relevant languages (English, Spanish, etc.) to mark waste collection areas.
- If possible, locate dumpsters near construction site entrances to minimize traffic on disturbed soils.
- Provide waste containers of sufficient size and number to contain waste.
- Cover materials that might be displaced by rainfall or stormwater runoff with tarps, plastic sheeting, or other containment structures.
- Consider secondary containment around waste collection areas to further minimize the likelihood of contaminated discharges.
- Segregate and provide proper disposal options for hazardous material wastes (see *PP-1, Materials Storage and Handling*).
- On work days, clean up and dispose of waste in designated containers and clean up immediately if containers overflow.
- Clean up litter and debris from the construction site daily.

Maintenance:

- Inspect waste storage areas to identify containers or equipment that could malfunction and cause leaks or spills.
- Immediately repair or replace any containers that are found to be defective.

Tips:

- During storm events, waste should be stored in watertight dumpsters or securely covered.
- Salvage or recycle waste as appropriate and recycle materials whenever possible (e.g., paper, wood, concrete, oil).

Sanitary Waste Management (PP-3)

Position portable toilets so that they are secure and will not be tipped or knocked over. Photo credit: Kentucky Best Management Practices for Construction Activities, 2005

Use: Prevent the introduction of wastes from construction site toilet facilities to storm drains or receiving waters.

Design specifications:

- Provide accessible restroom facilities on-site.
- Portable toilets should not be located near drainage facilities or receiving waters, nor should they be located in areas that will collect water.
- Do not discharge or bury wastewater at the construction site.
- Position portable toilets so that they are secure and will not be tipped or knocked over.
- Provide secondary containment pans under portable toilets, where possible.
- Provide tie-downs or stake downs for portable toilets in areas of high winds.
- Educate employees, subcontractors, and suppliers on locations of facilities.

Maintenance:

- Inspect portable toilets for leaks, and repair or replace any leaks immediately.
- Maintain clean restroom facilities and empty waste regularly.
- Ensure that the sanitary/septic facilities are maintained in good working order and wastes are transported offsite by a licensed service.

Concrete/Stucco Washout Controls (PP-4)

Illustration of large concrete washout fabricated from straw bales, plastic sheeting, and wooden stakes. Note how sheeting extends well over sidewalls, and is tucked under bales.

Concrete washout for single lot use made of straw bales and plastic. Washout is located away from pavement, storm drains, and ditches to ensure that any overflow does not move toward surface waters. Photo credit: Barry Tonning, Tetra Tech

Use: Capture and hold concrete washout water and concrete waste. Use this BMP at sites in which concrete and stucco waste is present. Concrete waste is present at most construction sites.

Location: Place washout area in a convenient location for concrete truck drivers, but away from storm drains, ditches, stormwater inlets, and surface waters.

Design criteria:

- Use pre-determined disposal sites for waste concrete.
- Provide adequate signage in relevant languages (English, Spanish, etc.) to mark washout area.
- Direct washout water into a leak-proof container or pit designed so that no overflows will occur due to inadequate sizing or precipitation.
- Do not dump liquid wastes in storm sewers or surface waters, and locate washout and cleanout activities away from drainage features. If liquids are present and must be removed, dispose of liquid wastes consistent with the specifications in *PP-1, Materials Storage and Handling*.
- Use an impermeable, durable plastic liner to prevent leakage of wash water.
- Construct basin sidewalls with straw bales, wood, or earthen berms. Fabricated washout tanks are available in some areas.
- Remove and dispose of hardened concrete waste consistent with how you dispose of other construction wastes as specified in *PP-2, Construction and Solid Waste Management*.

Maintenance:

- Inspect washout basins regularly for leakage and overflows.
- Immediately repair or replace any that are found to be defective.
- Cover washout basins that are full, to promote complete drying of contents prior to disposal.

Tips:

- Work with other builders to share washout basin responsibilities.
- Drivers and equipment operators must be instructed on proper disposal and equipment washing practices (see above).

Removal:

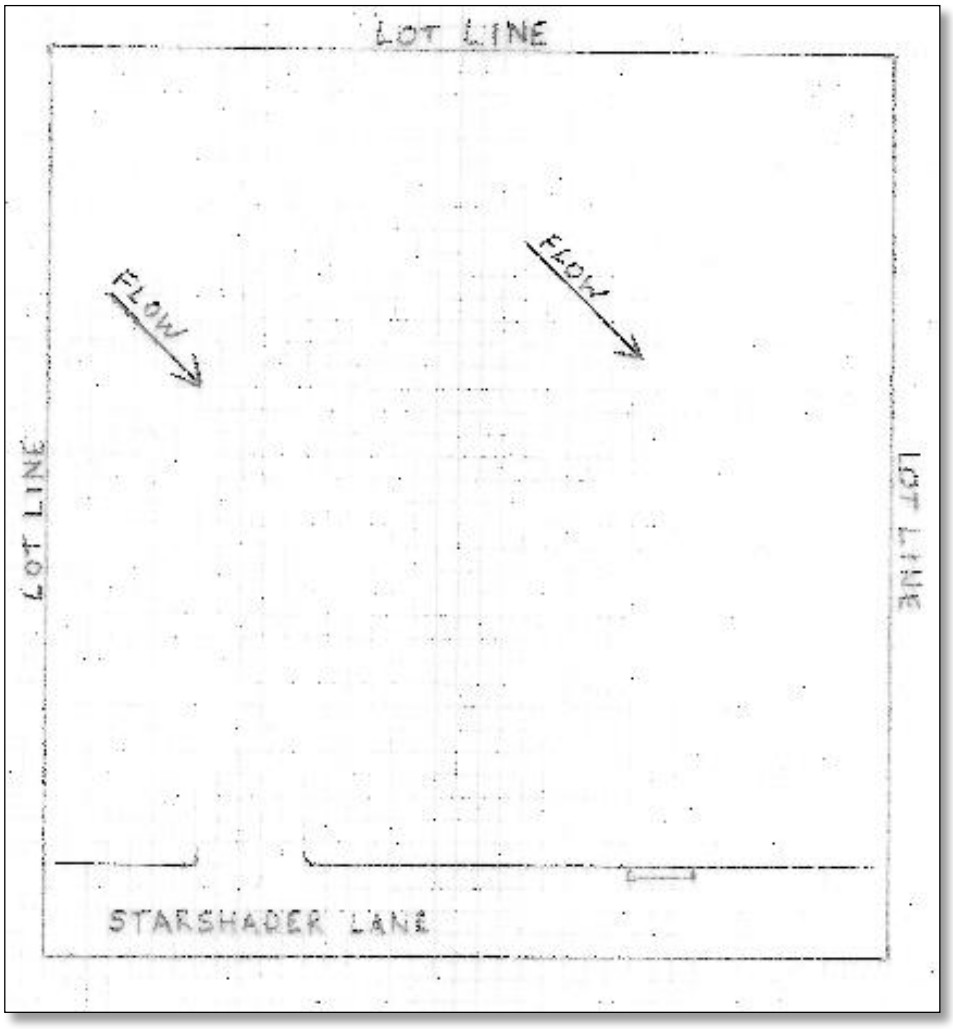
When basin is full, allow contents to dry completely before removal.

APPENDIX D – EXAMPLE SITE MAPS

The following are a series of example site maps that you can use as a guide for developing your site-specific site maps in Part 7 of this template.

1 Site Boundaries and Layout – Pre-Construction
2 Potential Pollutant Sources and Discharge Locations – Pre-Construction
3 Best Management Practices – Pre-Construction
4 Potential Pollutant Sources and Discharge Locations – Construction Phase
5 Best Management Practices – Construction Phase

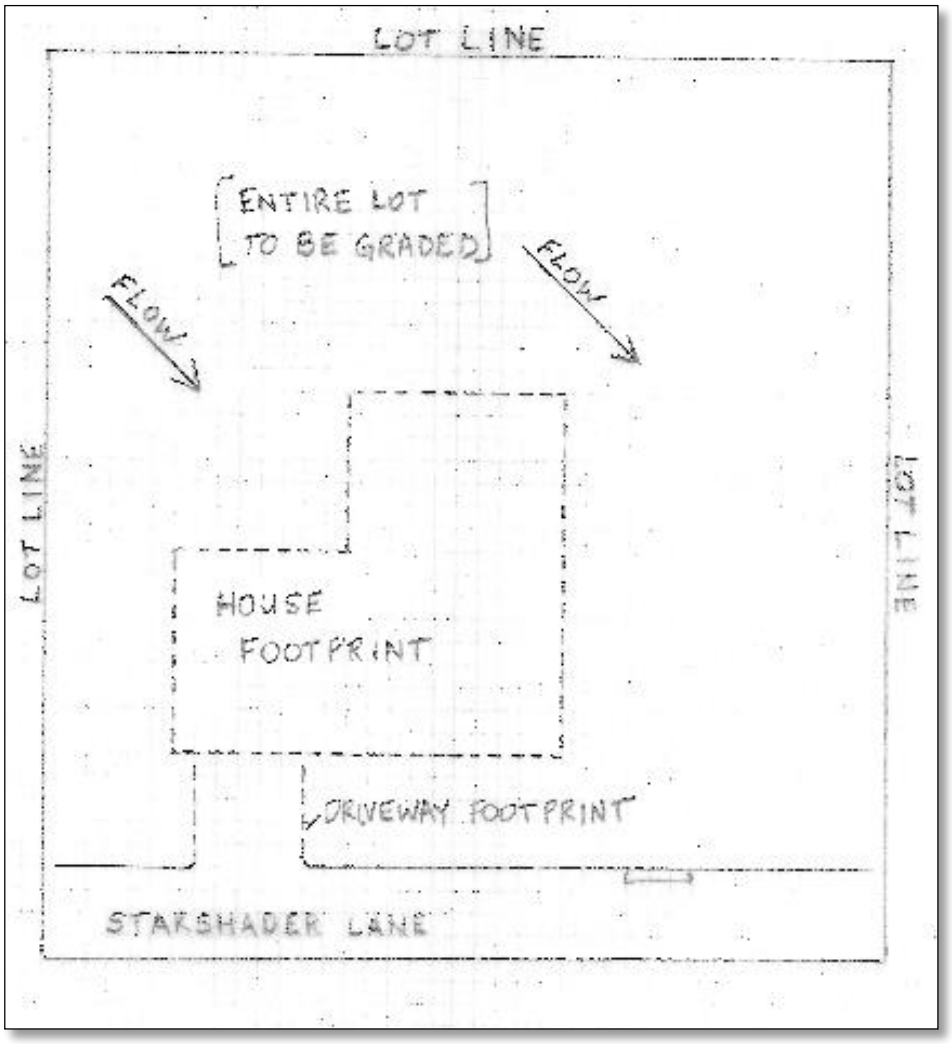
1. Site Boundaries and Layout – Pre-Construction Phase



Notes:

Site is relatively flat. No surface waters in vicinity.

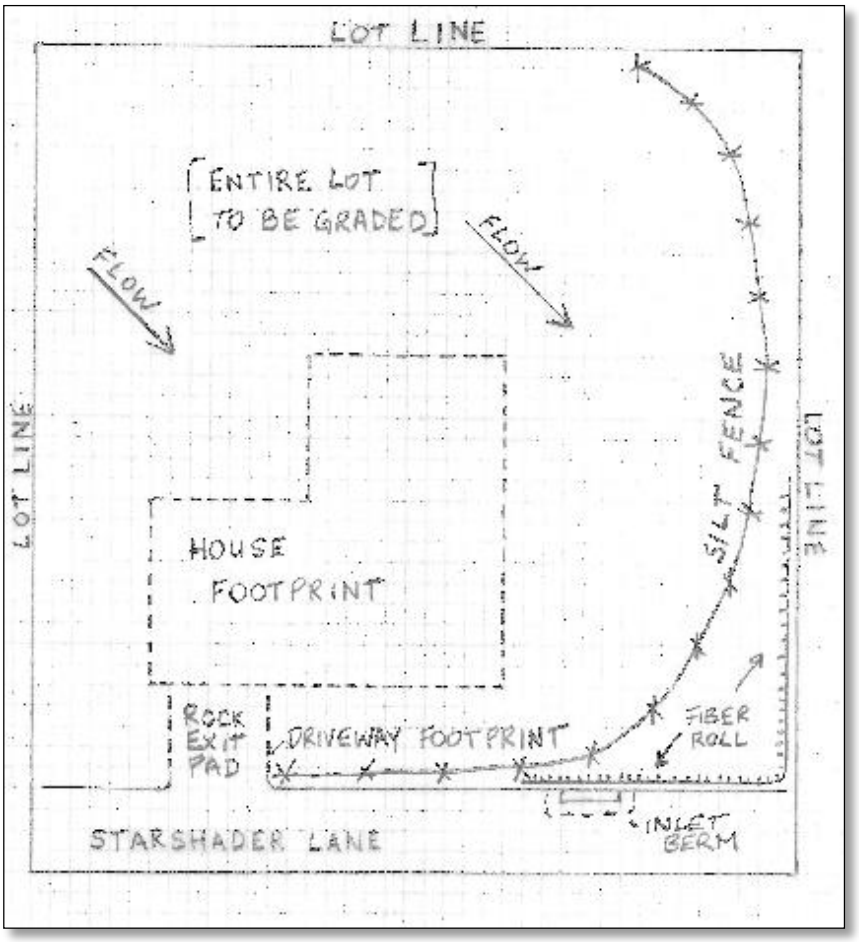
2. Potential Pollutant Sources and Discharge Locations – Pre-Construction Phase



Notes:

Entire site will be disturbed during grading.

3. Best Management Practices – Pre-Construction Phase

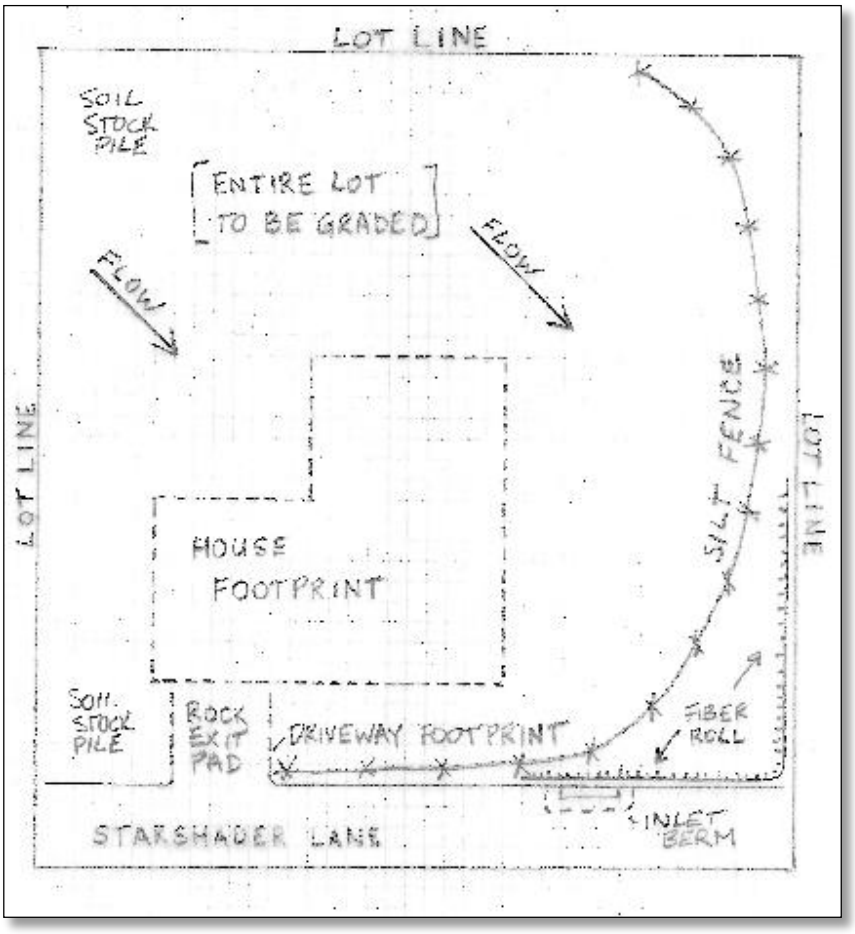


Notes:

Downgradient areas will be protected with silt fence and fiber roll.

Future driveway will serve as site exit and will be protected with rock exit pad.

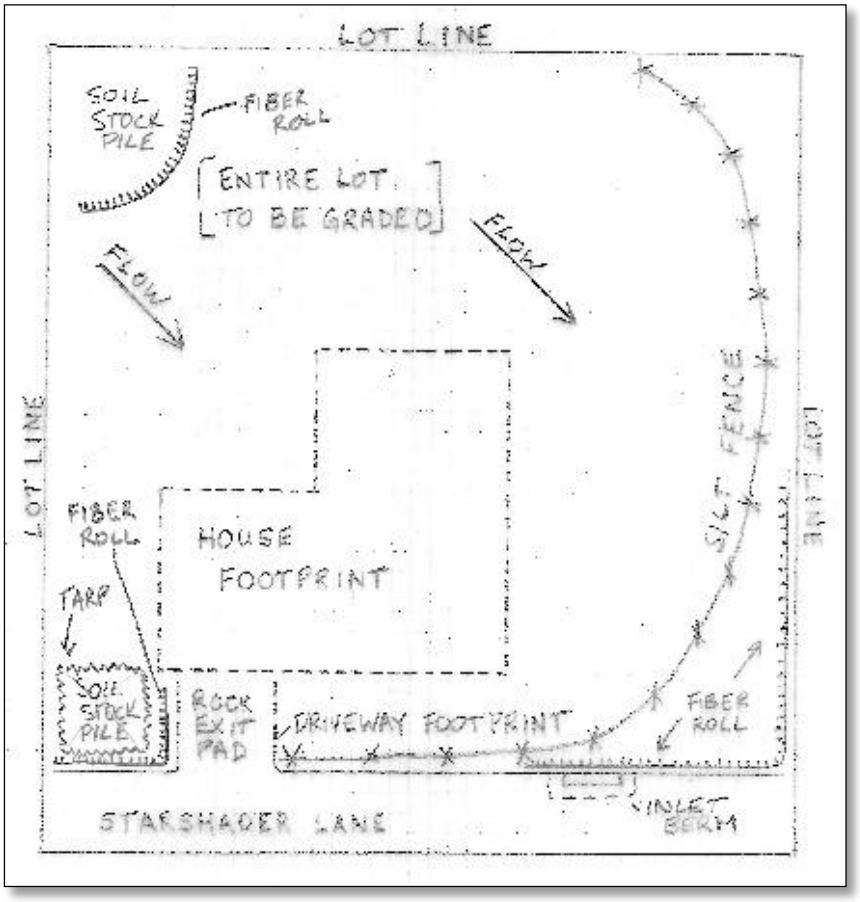
4. Potential Pollutant Sources and Discharge Locations – Construction Phase



Notes:

Site may include two soil stockpiles during construction phase.

5. Best Management Practices – Construction Phase



Notes:

Soil stockpiles will be covered by tarps and surrounded by fiber roll.

APPENDIX E – COPY OF THE IDNR NPDES GENERAL PERMIT NO.2

Attach a copy of Iowa DNR's NPDES General Permit No.2

APPENDIX F – COPY OF NOI & AUTHORIZATION LETTER

Attach a copy of your complete NOI form and Iowa DNR's Authorization Letter providing coverage under the IDNA NPDES General Permit No.2

APPENDIX G – COMPLETED INSPECTION REPORTS

Attach copies of completed inspection reports.

APPENDIX H – ACTIVITY LOG (Document Corrective Actions)

Date	Activity Log