

**YOU MUST HAVE A SOIL EROSION  
PLAN SKETCH ACCOMPANYING  
THIS APPLICATION**

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

**Driving Directions from our office to your site:** \_\_\_\_\_

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**MAKE CHECK PAYABLE TO:**  
**Lake County Building Department**

**RETURN SOIL EROSION APPLICATION TO:**  
**Lake County Building Department**  
**800 10<sup>th</sup> Street, Suite 110**  
**Baldwin, MI 49304**

LAKE COUNTY  
SOIL EROSION & SEDIMENTATION CONTROL  
FEE SCHEDULE  
EFFECTIVE JUNE 14, 2004

RESIDENTIAL

Septic Replacement.....	\$ 75.00
Deck (300 square feet or less).....	\$ 40.00
New homes, accessory buildings or residential sites.....	\$ 85.00
Site Evaluation.....	\$ 75.00
Multi-Family Residential (up to one (1) acre).....	\$ 150.00
Additional acre or fraction of.....	\$ 40.00

Residential Soil Erosion Permit covers four (4) inspections. If more than four (4) inspections are required, a site evaluation fee will be charged for each additional visit.

BASIC COMMERCIAL

Seawalls (Rip Rap, Etc.).....	\$ 125.00
Disturbance of less than one (1) acre.....	\$ 150.00
Disturbance of one (1) acre.....	\$ 200.00
Each additional acre (or fraction of an acre).....	\$ 45.00
Site Evaluation.....	\$ 75.00

UTILITIES

Underground pipelines and cables.....	\$ 175.00
Up to one (1) mile.....	\$ 175.00
Each additional ½ mile.....	\$ 100.00
Site Evaluation.....	\$ 125.00

EXTRACTION SITES (Same as Basic Commercial)

Renewable on an annual basis for four (4) years total with the original fee. (Annual site visit required.)  
After four (4) years, the permit will be renewable on an annual basis after a site visit and a site visit fee.

*After-the-fact Soil Erosion Permits will be charged a double fee and a site evaluation fee as listed.*

Revised 6/12/14

**NOTE: SOIL EROSION PERMITS WILL BE ISSUED FOR A ONE-YEAR PERIOD AND WILL THEN EXPIRE. IF THE PROJECT IS NOT COMPLETE AND SOILS ARE NOT STABILIZED, A NEW FEE WILL BE CHARGED UPON DATE OF EXPIRATION. HOWEVER, IF THE PROJECT IS NOT COMPLETE AND CHANGES ARE MADE TO THE PROJECT, YOU WILL THEN NEED TO SUBMIT A NEW SITE MAP ALONG WITH ANY NEW INFORMATION.**

**LAKE COUNTY  
PERMIT APPLICATION  
for Part 91  
SOIL EROSION AND  
SEDIMENTATION CONTROL**

**OFFICE USE ONLY**

Permit Number	
Approved by:	Date:
Date Issued	
Expiration Date	
File Number	

**1. APPLICANT**

Name			
Address			
City	State	Zip Code	Area Code/Telephone Number

**2. JOB LOCATION**

Section	Town	Range	Lot Nos.	Township	Subdivision
City/Village		County		Street Address	

**3. PROPOSED EARTH CHANGE**

Described Project		Size of Earth Change (acres or square feet)
Name of and Distance to Nearest Lake, River, Stream, or Drain	Date Project to Start	Date Project to be Completed

**4. SOIL EROSION AND SEDIMENTATION CONTROL PLAN (Refer to Rule 323.173)**

Note: _____ complete sets of plans must be attached.	Estimated Cost of Erosion and Sediment Control	
	Plan Preparer's Name and Telephone Number	Area Code (    )

**5. PARTIES RESPONSIBLE FOR EARTH CHANGE**

Name of Landowner		Address		
City	State	Zip Code	Area Code/Telephone Number	
Name of Individual "On Site" Responsible for Earth Change		Company Name		
Address	City	State	Zip Code	Area Code/Telephone Number

**6. PERFORMANCE DEPOSIT (if required by the permitting agency)**

Amount Required \$ _____	<input type="checkbox"/> Cash	<input type="checkbox"/> Certified Check	<input type="checkbox"/> Irrevocable Letter of Credit	<input type="checkbox"/> Surety Bond
Name of Surety Company				
Address	City	State	Zip Code	Area Code/Telephone Number

I (we) affirm that the above information is accurate and that I (we) will conduct the above described earth change in accordance with Part 91, Soil Erosion and Sedimentation Control, of the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended, applicable local ordinances, and the documents accompanying this application.

Landowner's Signature	Print Name	Date
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**DEQ**  
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
LAND AND WATER MANAGEMENT DIVISION

Regulated Activities Under the  
Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended

- 1a. Does your project or activity involve an *earth change* that disturbs one or more acres of land or is located with 500 feet of a *lake or stream*? If yes, a Part 91 permit must be obtained from the county or local governmental agency. Note: Some counties and local agencies may require permits for other earth changes in addition to those described above. Please check with them prior to undertaking any earth change. A list of Part 91 permitting agencies is available at [www.deq.state.mi.us/lwm/](http://www.deq.state.mi.us/lwm/) under the Water Management Section, Soil Erosion and Sedimentation Control Program.

*Earth change* means a human-made change in the natural cover or topography of land, including cut and fill activities, which may result in or contribute to soil erosion and sedimentation of the waters of the state. Earth change does not include the practice of plowing or tilling soil for the purpose of crop production.

*Lake* means “the Great Lakes and all natural and artificial inland lakes or impoundments that have definite banks, a bed, visible evidence of a continued occurrence of water, and a water surface area equal to, or greater than, one acre.”

*Stream* means “a river, creek, or other surface water; course which may or may not be serving as a drain, as defined in the drain code, and which has definite banks, a bed, and visible evidence of the continued flow or continued occurrence of water, including the connecting waters of the Great Lakes.”

- 1.b. Does your project or activity involve an earth change that is under the jurisdiction (crosses the boundaries) of two or more county and/or local Part 91 agencies described in 1a? (Part 91) ..... No \_\_\_  
Yes \_\_\_

If your project or activity disturbs five or more acres, a storm water permit is required from the Surface Water Quality Division (SWQD), Michigan Department of Environmental Quality (MDEQ). Please call 517-241-8993 for further information.

2. Is your project or activity in or near an *inland lake or stream*? (Parts 31 and 301)? ..... No \_\_\_ Yes \_\_\_

*Inland lake or stream* means “a natural or artificial lake, pond, or impoundment; a river, stream, or creek which may or may not be serving as a county drain as defined by the drain code; or any other body of water that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water .....” “Inland lake or stream does not include...a lake or pond that has a surface area of less than 5 acres.

3. Does your project or activity impact a *wetland*? (Part 303)..... No \_\_\_ Yes \_\_\_

*Wetland* means “land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, marsh....”

If work in wetlands cannot be avoided, a permit from the MDEQ may be required; and wetland mitigation to compensate for the loss of the wetland and its functions may also be required. For questions regarding regulated wetlands, please contact your local LWMD Field Office or the Inland Lakes and Wetlands Unit at 517-373-1746.

The MDEQ’s Wetland Assessment Program assists property owners in identifying wetlands on their property. For more information on the Wetland Assessment Program call 517-241-8485.

4. Is your project or activity in or adjacent to the *Great Lakes*? (Parts 323, 325, and 353)..... No \_\_\_ Yes \_\_\_

5. Does your project or activity involve constructing, maintaining, or altering a dam? (Part 315)..... No \_\_\_ Yes \_\_\_

*Dam* means “an artificial barrier, including dikes, embankments, and appurtenant works, that impounds, diverts, or is designed to impound or divert water or a combination of water or any other liquid or material in the water.”

(over)

**1. Floodplain Regulatory Authority found in Part 31, Water Resources Protection.**

A permit is required to:

- Occupy, construct, fill or grade within the 100-year floodplain of a river, stream, drain or lake. Bridges and culverts are considered an occupation of the floodplain, as are activities that involve storage of materials in the floodplain.

**2. Part 91, Soil Erosion and Sedimentation Control**

A permit is required for:

- Earth changes within 500 feet of the water's edge of a lake, river or stream.
- Earth changes disturbing one or more acres.

**3. Part 301, Inland Lakes and Steams**

A permit is required to:

- Dredge or fill bottomlands.
- Construct, enlarge, extend, remove, or place a structure on bottom land.
- Erect, maintain, or operate a marina.
- Create, enlarge or diminish an inland lake or stream.
- Structurally interfere with the natural flow of an inland lake or stream.
- Construct, dredge, commence, extend, or enlarge an artificial canal, channel, ditch, lagoon, pond, lake, or similar waterway where the purpose is ultimate connection with an existing inland lake or stream, or where any part of the artificial waterway is located within 500 feet of the ordinary high water mark of an existing inland lake or stream.
- Connect any natural or artificially constructed waterway, canal, channel, ditch, lagoon, pond, lake, or wetland with an existing inland lake or stream for navigation or any other purpose.

**4. Part 303, Wetlands Protection**

A permit is required to:

- Deposit or permit the placing of fill material in a wetland.
- Dredge, remove, or permit the removal of soil or minerals from a wetland.
- Construct, operate, or maintain any use or development in a wetland.
- Drain surface water from a wetland.

Regulated wetlands are defined in Part 303 and the associated administrative rules.

**5. Part 315, Dam Safety**

Permits are required for dams and with a dam "height" of six feet or more and that has a surface area of five acres or more at the design flood elevation. A permit is required for new dam construction, enlargement of an existing dam or impoundment, dam repair, dam alteration, dam removal, dam abandonment, or reconstruction of a failed dam.

**6. Part 323, Shorelands Protection and Management**

Designated Environmental Areas – A permit is required for any of the following activities in a designated environmental area:

- Dredging, filling, grading, or other alterations of the soil.
- Alteration of natural drainage, but not including the reasonable care and maintenance of established drainage.
- Alteration of vegetation utilized for the preservation and maintenance of fish or wildlife, including identified colonial bird nesting areas.
- Placement of permanent structures.
- Farming of land is allowed without a permit if the person is engaged in the business of farming and the land is used for the production and harvesting of agricultural products using normal farming implements and generally accepted agricultural practices and if artificial draining, diking, dredging, or filling are not used and the natural contour of the land is not altered.

The following counties have designated environmental areas:

Alcona	Arenac	Charlevoix	Delta	Huron	Monroe
Alger	Baraga	Cheboygan	Emmet	Mackinac	Tuscola
Alpena	Bay	Chippewa	Houghton	Marquette	Wayne

Designated High Risk Erosion Areas – A permit is required for the erection, installation, or moving of a permanent structure on a parcel of land where any portion is a designated high risk erosion area. Examples include homes, porches, septic systems, additions substantial improvements of existing structures, and out building. With the exception of Alcona, Charlevoix, Macomb, Monroe, and Wayne Counties, all coastal counties have some designated high risk erosion areas.

**7. Part 325, Great Lakes Submerged Lands**

A permit is required for all filling, dredging, and placement of permanent structures (i.e., groins, docks, piers, pilings, etc.) below the "ordinary high water mark" and on all upland channels extending landward of the "ordinary high water mark" of the Great Lakes.

**8. Part 353, Sand Dune Protection and Management**

A permit is required for all proposed new uses in designated critical dune areas mapped in the "Atlas of Critical Dune Areas," prepared by the MDEQ. The following counties have designated critical dune areas:

Alger	Berrien	Emmet	Luce	Mason	Ottawa
Allegan	Charlevoix	Keweenaw	Mackinac	Muskegon	Schoolcraft
Antrim	Chippewa	Leelanau	Manistee	Oceana	Van Beren
Benzie					

Islands that have designated critical dune areas include Beaver Island, North Fox Island, South Fox Island, High Island, North Manitou Island, and South Manitou Island.

Please indicate by entering the day of the month in which you will be doing the items listed.

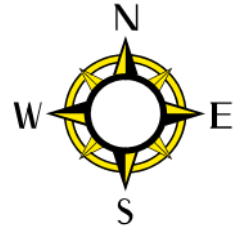
Year 201    

CONSTRUCTION ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. Mark Critical Areas												
2. Stake Building												
3. Sediment Control Measures												
a. _____												
b. _____												
4. Remove Trees												
5. Stockpile Topsoil												
a. Stabilize												
b. Maintain												
6. Rough Grade Site	-	-	-	-	-	-	-	-	-	-	-	-
7. Temporary Erosion Control												
a. Seeding												
b. Mulching												
c. Silt Fence												
8. Exc. Footing/ Basement												
9. Install Underground Utilities												
10. Construct Footings/Foundations	-	-	-	-	-	-	-	-	-	-	-	-
11. Construct Superstructure												
12. Apply Aggregate Base to Drives												
13. Final Grading												
14. Permanent Erosion Control												
a. Seeding												
b. Sodding												

Appropriate boxes to be dated by applicant for approval by Enforcing Agency

**SITE OR PLOT PLAN - FOR APPLICANT USE**

Indicate direction of slope, area of earth change, elevation difference from site to water, and silt fence placement.









# SOIL EROSION AND STORMWATER CONTROL PRACTICES FOR HOME SITES

## **Silt Fence**

- \* Available from construction supply companies
- \* Install prior to excavation
- \* Install on downslope sides of site parallel to contour of land.
- \* Extend ends upslope enough to allow water to pond behind fence.
- \* Bury 4 inches of fabric in trench (see attached silt fence example).
- \* Leave no gaps. Intertwine sections of silt fence.
- \* Inspect and repair once a week or after every ½ inch of rain. Remove sediment if deposits reach half the fence height.

## **Soil Piles**

- \* Locate away from any downslope street, driveway, stream, lake, wetland, ditch or drainageway.
- \* Temporary seed such as annual rye or winter wheat is recommended for topsoil piles.

## **Roof Runoff**

To manage stormwater runoff from roof tops, install stone drain beds or gutters with downspout extenders. These techniques reduce erosion and protect surrounding vegetation.

### *Stone drainbeds*

- \* Place a strip of small stones 4-6 inches past the drip line surrounding your home or structure.
- \* Do not use stone beds, when basements or crawlspaces are located in clay or sandy loam soil.

### *Gutters with downspout extenders.*

- \* Use plastic drain pipe to direct water to grassed or other appropriate area for infiltration

## **Drainage Swale and Check Dams**

Grassed drainage swales or waterways reduce the runoff velocity of stormwater and allow for infiltration into the soil.

Check dams, made of stone, can be placed on the bottom of drainage swales-across the path of the stormwater flow to assist with water velocity reduction and infiltration.

- \* The side slope of the swale should be 3:1 or flatter if the site allows.
- \* To prevent erosion, the middle of the dam should be lower than the outer edges at natural ground elevation.

## **Wind Erosion**

- \* During high winds, exposed soil may need to be watered down to prevent soil from leaving the site.

## **Sediment Cleanup**

- \* Immediately sweep or scrape up soil tracked on the road.
- \* Immediately after a storm, cleanup the soil washed off-site.

**Continued on backside**

## Preserve Existing Vegetation

- \* Wherever possible, preserve existing trees, shrubs, and other vegetation.
- \* Minimize the area of disturbance near lakes, streams, and wetlands.
- \* To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation.
- \* Place plastic mesh or snow fence barriers around trees to protect area below branches

## Revegetation

- \* Seed, sod or mulch bare soil as soon as possible.
- \* Establish buffer strips of vegetation at least 25' wide adjacent to water bodies for water quality protection.
- \* Plant native species, if possible (see local Soil Conservation District for suggestions).
- \* Consider attractive, low maintenance alternatives to traditional lawns such as native ground cover and wildflowers. Plant quick growing annual rye grasses to stabilize soil until other vegetation is established.

## Seeding & Mulching

- \* Spread 4 to 6 inches of topsoil.
- \* Fertilize and lime only if needed according to soil test.
- \* Seed with an appropriate mix for the site. (for guidance, call local Soil Conservation District).
- \* Rake lightly to cover seed with ¼" of soil. Roll lightly.
- \* Mulch with straw (two to three bales per 1,000 sq ft.).
- \* On steep slopes, anchor mulch by watering or using netting.
- \* Water gently every day or two to keep soil moist. Less watering is needed once grass is 2" tall.

## Sodding

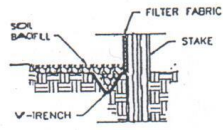
- \* Spread 4 to 6 inches of topsoil.
- \* Fertilize and lime only if needed according to soil test.
- \* Lightly water the soil.
- \* Lay sod, tamp or roll lightly.
- \* On slopes, lay sod starting at the bottom and work toward the top, laying in a brickwork pattern. Peg each piece down in several places.
- \* Initial watering should wet soil 6 inches deep (or until water stands 1-inch deep in a straight-sided container). Then water lightly every day or two to keep soil moist but not saturated for two weeks.
- \* Generally, the best times to sod or seed are early fall (August 15 – September 15) or spring (May).
- \* If construction is completed after September 15, permanent seeding should be delayed. Sod *may* be laid until November 15. Temporary seed (such as rye or winter wheat) may be planted until October 15. Mulch or matting may be applied after October 15, if weather permits. **Silt fences must be maintained until the disturbed area is stabilized with seeding, sodding or appropriate ground cover.**

# Commonly Used Erosion Controls

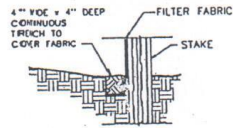
## SILT FENCES

### HOW TO INSTALL A SILT FENCE

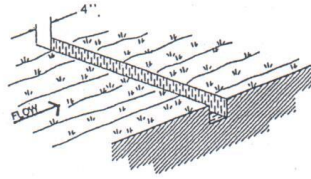
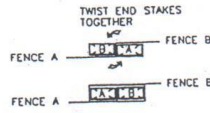
#### TWO TYPES OF TRENCHES



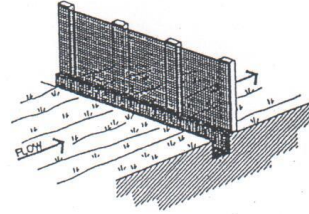
#### 1. V-TRENCH



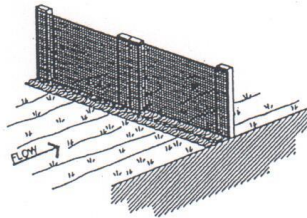
#### 2. FLAT BOTTOM TRENCH (TYPICAL)



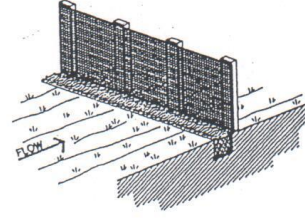
1. Excavate a 4"x4" trench along the contour.



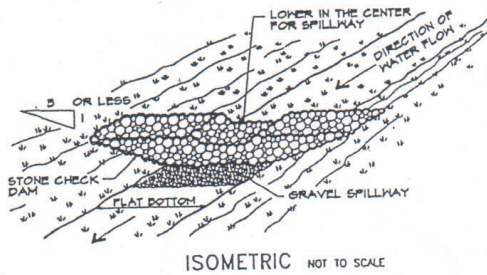
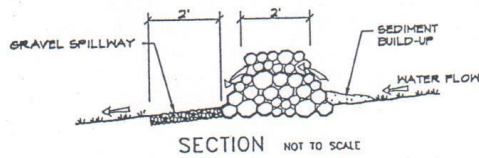
2. Slope the silt fence on downslope side of trench. Extend 8" of fabric into the trench.



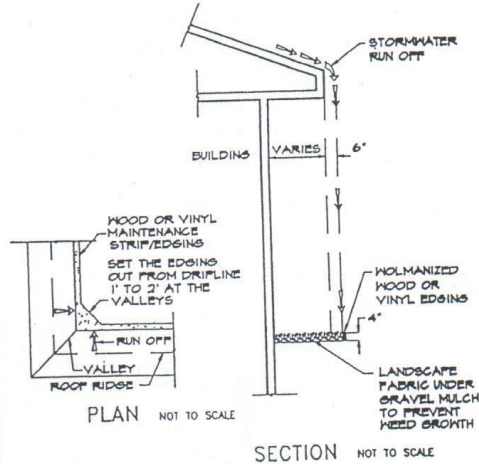
3. When joints are necessary, overlap ends and twist stakes together.



4. Backfill and compact the excavated soil.



GRASS SWALE/DITCH WITH STONE CHECK DAM



STONE DRAIN BED