



POST OFFICE BOX 850 COWETA, OKLAHOMA 74429 PH. (918) 486-2189 FAX (918) 486-5366 www.cityofcoweta-ok.gov

APPLICATION FOR EARTH CHANGE PERMIT

This application is in conformance with the provisions of Ordinance No. 390 Subdivision Regulations.

Applicant: _____

Address: _____

Phone Number: _____

Fax: _____

Email: _____

Project Name: _____

Staff Use Only: Permit Number (if approved): _____

Plans and specifications described in Subdivision Regulation 8.12 (attached) shall be included with this application. These items shall include, but not be limited to, the following:

1. A vicinity sketch of the site for which the permit is requested, including a legal description of such property, and a boundary line-survey as may be required of the City Engineer.
2. Site drawings indicating each separate land area to be excavated, filled, graded, or leveled, the finished depth of each separate land cut or fill, the present and future (as completed) points of entry and discharge for surface water on the subject property, and identification of all temporary or permanent structures or other devices to be erected or established for the purpose of controlling or regulating surface water and erosion on such property.
3. Plans for controlling on-site erosion and off-site sedimentation for the purpose of minimizing the deposit of sediment from the tract under application upon any other off-site public or private property or watercourse during all phases of project construction.
4. Plans for receipt of surface water on the property and discharge of surface water from the property during periods of construction, and a statement specifying the anticipated period for the completion of all drainage improvements.
5. Sites where more than one acre of land will be disturbed shall have an ODEQ OKR10 Notice of Intent to Discharge (NOI) and a Stormwater Pollution Prevention Plan (SWP3). A copy shall be furnished to the City of Coweta with the Earth Change Permit application.



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6. If grading or fill is proposed within the FEMA designated 100-year floodplain, a special flood hazard development permit is required.
7. Prior to commencing any earth disturbing activity, erosion control measures shall be installed.
8. Application Fee: \$_____
 0 to 4.99 acres: \$50
 5 to 19.99 acres: \$75
 20 acres or more: \$100
9. **Should the owner/developer choose to proceed with earth change work, all work is performed at the owner/developer's own sole risk and may be subject to modification, comments and conditions by City Staff. The City of Coweta assumes no liability or responsibility for any conditions deemed necessary in the future by the City of Coweta.**

Owner/Applicant's Name (Printed): _____

Job Title/Position: _____

Company/Institution Name & Address: _____

Owner/Applicant's Signature: _____

Date: _____

(By signing, the Owner/Applicant agrees to the requirements and conditions in this permit application, certifies that he or she is authorized to sign on behalf of, and legally bind, the land owner applicant to the responsibilities of the permit application and permit, and certifies that the information herein is true and correct).



8.12 Earth Change, Soil Erosion and Sedimentation

1. Introduction

The principles of erosion and sedimentation control can be successfully formulated and implemented by understanding the basic processes of soil erosion and sedimentation.

There is a certain amount of erosion and sedimentation that occurs in nature. The process of natural erosion and sedimentation is greatly accelerated due to construction activity. If the accelerated process is not accounted for at the time of construction, the adverse effects, possible are:

- a. A large increase in area exposed to storm water runoff and soil erosion.
- b. Increased volumes of storm runoff, accelerated soil erosion and sediment yield and higher peak flows caused by:
 1. Removal of protective vegetative cover.
 2. Exposure of underlying soil or geologic formations less pervious and/or more erodible than original soil surface.
 3. Reduced capacity of exposed soils to absorb rainfall due to compaction caused by heavy equipment.
 4. Enlarged drainage areas caused by grading operations, diversions and street construction.
 5. Shortened times of concentration of surface runoff caused by altering steepness, distance and surface roughness and installation of improved storm drainage facilities.
 6. Increased impervious surfaces associated with the construction of streets, buildings, sidewalks and paved driveways and parking lots.
- c. Alteration of the groundwater regime that may adversely affect drainage systems, slope stability and survival of existing and/or newly established vegetation.
- d. Creation of exposures facing south and west that may hinder plant growth due to adverse temperature and moisture conditions.



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- e. Exposure of subsurface materials that are rocky, acidic, droughty or otherwise unfavorable to the establishment of vegetation.
 - f. Adverse alteration of surface runoff patterns by construction and development.
2. General Applicability
- Earth change permit applications shall be required for areas as determined by the City Engineer.
3. Minimum Approval Requirements
- The plans and specifications accompanying the permit application shall contain the following data as deemed applicable by the City Engineer:
- a. A vicinity sketch at the scale of 1-inch to 200 feet indicating the site location as well as the adjacent properties within 500-feet of the site boundaries.
 - b. A boundary line survey of the site on which the work is to be performed.
 - c. A plan of the site at a minimum scale of 1-inch to 100-feet showing:
 1. Name, address and telephone number of the legal land owner, developer and petitioner.
 2. A timing schedule indicating the anticipated starting and completion dates of the developments construction sequence and the time of exposure of each area prior to the completion of effective erosion and sediment control measures.
 3. Estimate of the quantity of excavation and fill involved.
 4. Existing topography at a maximum of 2-foot contour intervals.
 5. Proposed topography at a maximum of 2-foot contour intervals.
 6. Location of any structure or natural feature on the site.
 7. Location of any structure or natural feature on the land adjacent to site and within 50-feet of the site boundary line.

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8. Location of any proposed additional structures or development on site.
 9. Plans of all drainage provisions, retaining walls, cribbing, planting erosion control measures, or other temporary or permanent soil erosion control measures to be constructed in connection with, or as a part of the proposed work together with a map showing the drainage area of land tributary to the site and estimated runoff of the area served by any drains.
- d. The estimated total cost of the required temporary and permanent soil erosion control measures shall be provided.
 - e. Other information or data that may be required by the City Engineer such as a soil investigation report which shall include but not be limited to, data regarding the nature, distribution and supporting ability of existing soils and rock on the site.
4. Principles of Applying Erosion and Sediment Control Criteria
 - a. Plan the development to fit the particular topography, soils, water ways and natural vegetation at a site.
 - b. Expose the smallest practical area of land for the shortest possible time.
 - c. Apply “soil erosion” control practices as a first line of defense against on-site damage.
 - d. Apply “sediment” control practices as a perimeter protection to prevent off-site damage.
 - e. Implement a thorough maintenance and follow up operation.
 5. Temporary Structural Practices
 - a. Dikes:
 1. Diversion dike.
 2. Interceptor dike.
 3. Perimeter dike.



- b. The design drainage area for dikes shall not exceed 5 acres.
- c. The minimum dimensions shall be in accordance with the adopted standards.
- d. Swales:
 - 1. Interceptor swale.
 - 2. Perimeter swale.
- e. The design drainage area for swales shall not exceed 5 acres.
- f. The minimum dimensions shall be in accordance with the adopted standards.
- g. Straw Bale Dike:

Where no other practice is feasible a temporary barrier with a life expectancy of three months or less can be installed across or at the toe of a slope for contributing drainage areas less than half acre, in accordance with the adopted standards.
- h. A stabilized construction entrance shall be built in accordance with the adopted standards to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way.
- i. A stone outlet structure shall be constructed in areas where the entire drainage area to the structure is not stabilized or where there is a need to dispose runoff at a protected outlet or where concentrated flow for the duration of the period of construction needs to be diffused. The structure shall be in accordance with adopted standards.
- j. A grade stabilization structure in the form of a paved chute or flume shall be constructed to prevent erosion, where concentrated flow of surface runoff to be conveyed down a slope, in accordance with the adopted standards. The maximum allowable drainage area upstream of such a structure shall not exceed 36 acres.
- k. A grade stabilization structure in the form of a pipe slope drain shall be constructed to prevent erosion, where concentrated flow of surface runoff is to be conveyed down a slope, in accordance with the adopted standards. The maximum allowable drainage area upstream of such a structure shall not exceed 5 acres.



- l. Storm water detention facilities may be used temporarily as sediment basins. A temporary outlet structure for the storm water detention facility to work as a sediment pond shall be constructed. At the end of the construction activity, the developer shall make sure that the outlet structure shall meet the design requirements of a storm water detention facility.
- m. Condition of the detention facility that is used as a sediment pond during construction, shall meet the following requirements at the time of acceptance.
 1. It shall be completely cleaned by the developer and be rid of any immediate maintenance.
 2. It shall meet all design standards.
6. Permanent Structural Practices
 - a. Depending on the development layout, a diversion shall be constructed across a slope less than 15% to:
 1. Prevent runoff from higher areas which have a potential for causing erosion and thereby interfere with the establishment of vegetation on lower areas.
 2. Reduce the length of slopes to minimize soil loss.
 - b. Diversions need be constructed only below stabilized or protected areas in conformance with standards.
 - c. Outlets from diversions shall be constructed to discharge in such a manner as not to cause erosion.
 - d. Outlets shall be constructed and stabilized prior to the operation of diversion.
 - e. Storm drain outlet protection shall be provided when converting pipe flow to channel flow. The reduction in velocity shall be consistent with the roughness co-efficient of the receiving waterway. The reduction in velocity may be accomplished by:
 1. Providing mortared riprap, stabilization:
 2. Providing energy dissipaters;



3. Providing permanent vegetation, depending on the site specific needs.

7. Vegetative Practices

Vegetative practices can be applied very effectively to control erosion. The practice can be either temporary or permanent erosion. The practice can be either temporary or permanent depending on the site-specific needs. The specifications for establishing vegetation both temporary and permanent are briefly outlined below.

a. Temporary Practices

Small grains like oats, rye and wheat, and sudans and sorghums are the most feasible temporary vegetation to control erosion for the Coweta area. This practice is effective for areas where soil is left exposed for a period of 6 to 12 months. The time period may be shorter during periods of erosion rainfall.

1. Prior to seeding, needed erosion control practices such as diversions, grade stabilization structures, berms, dikes, etc. shall be installed.
2. Temporary vegetative practice is usually applied prior to the completion of final grading of the site.
3. If the area to be seeded has been recently loosened to the extent that an adequate seedbed exists, no additional treatment is required. However, if the area to be seeded is packed, crusted and hard, the top layer of soil shall be loosened by other suitable means.
4. Fertilizer shall be applied at a rate of 600 pounds per acre or 15 pounds per 1000 square foot using 10-20-10 or equivalent.
5. Soils known to be highly acidic shall be lime treated.
6. Seeding requirements shall be as specified in the following:

Plant	Per Acre	Per 1000 Sq. Ft.	Planting Date	Depth of Seeding
Annual Ryegrass	40 Lbs.	0.9 Lbs.	9/15 – 11/30	¼ Inch
Elbon Rye	2 Bu.	3.0 Lbs.	8/15 – 11/30	2 Inches
Wheat	2 Bu.	3.0 Lbs.	8/15 – 11/30	2 Inches



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Oats	3 Bu.	2.5 Lbs.	8/15 – 11/30	2 Inches
Sorghum	60 Lbs.	1.4 Lbs.	3/1 – 9/15	2 Inches
Sudan Grass	40 Lbs.	0.9 Lbs.	4/1 – 9/15	2 Inches

7. Seeds shall be drilled uniformly.
8. Seeding implements should be used at right angles to the general slope to minimize erosion.
9. After 2 to 3 months of planting the seeded site shall be top dressed with 8 pounds per 1000 square feet or 350 pounds per acre of 33-0-0.
10. Areas that are not well covered shall be replanted.
11. The seeded area shall be watered when feasible and needed.

b. Permanent Practices

Bermuda grass, Kentucky 31 Tall Fescue and Weeping Lovegrass are some of the types of permanent vegetation that could be effectively used to control erosion.

1. Prior to seeding, needed erosion control practices such as dikes, swales, diversions, etc. shall be installed.
2. The subgrade shall be loosened evenly to a depth of 2 to 3 inches and 10-20-10-fertilizer (10 pounds per 1000 square feet or 450 pounds per acre) shall be mixed with the loosened surface soil by discing or other suitable means.
3. Soils known to be high acidic shall be lime treated.
4. Planting rate requirements shall be as specified in the following table:

Plant	Per Acre	Per 1000 Sq. Ft.	Planting Date	Depth of Seeding
Bermuda Grass	10 Lbs.	0.25 Lbs.	4/1 - 8/15	0-1/2 Inch
Fescue	40 Lbs.	0.90 Lbs.	9/1 - 11/1	0-1/2 Inch
Lovegrass	5 Lbs.	0.10 Lbs.	4/1 - 6/30	0-1/2 Inch

5. Seeds shall be drilled uniformly.



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6. Seeding implements should be used at right angles to the general slope to minimize erosion.
7. Mulch will be used where needed.
8. The area shall be watered daily or as often as necessary to maintain adequate soil moisture until the plants grow about 1/2 - 1 inch.