TITLE 14

ZONING AND LAND USE CONTROL

CHAPTER
1. MUNICIPAL PLANNING COMMISSION.
2. SUBDIVISIONS.
3. ZONING.
4. FLOODPLAIN MANAGEMENT MEASURES.
5. EROSION CONTROL AND STORMWATER MANAGEMENT.

CHAPTER 1

MUNICIPAL PLANNING COMMISSION

SECTION
14-102. Composition; appointment of members; term.
14-103. Powers, duties and functions; generally.
14-104. Adoption of rules.
14-105. Designation and term of officers.
14-106. Meetings, quorum.


14-102. Composition; appointment of members; term. The municipal planning commission shall consist of ten (10) members; one (1) member shall be the mayor or the mayor's designee, one (1) member shall be a member of city council selected by a majority vote of city council, and the remaining eight (8) members shall be appointed by the mayor, which appointments shall be made by the mayor after receiving a recommendation from city council. Except for initial appointments, the terms of the eight (8) members appointed by the mayor shall be for a term of four (4) years each. The eight (8) members first appointed shall be appointed for initial terms as follows: two (2) members for a term of one (1) year, two (2) members for a term of two (2) years, and four (4) members for a term of four (4) years.

1 Municipal code reference
Boards and commissions: title 2.
years, two (2) members for a term of three (3) years, and the remaining two (2) members for a term of four (4) years, so that the term of two (2) members will expire each year. The term of the mayor or the mayor's designee shall run concurrently with the mayor's term of office. The term of the city council member serving on the commission shall be two (2) years, or at the expiration of the member's city council term of office, whichever occurs first. Any vacancy in an appointed membership shall be filled for the unexpired term by the mayor in the same manner as regular appointments are made. Members of the Oak Ridge Municipal Planning Commission may be removed for any or no cause by the mayor after receiving a recommendation of city council. (Ord. #6-04, Feb. 2004)

14-103. **Powers, duties and functions; generally.** The powers, duties and functions of the municipal planning commission shall be as prescribed by state law for municipal planning commissions, located in Tennessee Code Annotated, title 13, chapter 4. (Ord. #6-04, Feb. 2004)

14-104. **Adoption of rules.** The municipal planning commission shall adopt rules for the conduct of its authorized activities, insofar as such rules are not in conflict with the laws of the State of Tennessee, the city's charter and the ordinances of the city. If required by city charter, such rules, including any bylaws, shall not be effective unless approved by city council. (Ord. #6-04, Feb. 2004)

14-105. **Designation and term of officers.** The municipal planning commission shall elect from its membership a chairperson, a vice-chairperson and a secretary. The term of the chairperson shall be one (1) year with eligibility for reelection. (Ord. #6-04, Feb. 2004)

14-106. **Meetings, quorum.** The municipal planning commission shall hold public meetings at such regular intervals and places as it may designate. A majority of the commission shall constitute a quorum for the transaction of business, and all actions shall require the concurring vote of a majority of the members present. (Ord. #6-04, Feb. 2004)

14-107. **Capital improvements plan submittal.** The municipal planning commission shall submit to city council, in accordance with the city charter, a long-term capital improvement program with recommendations as to the priority of individual projects and the methods of financing them. (Ord. #6-04, Feb. 2004)

14-108. **Compensation.** All members of the municipal planning commission shall serve without compensation, but may be reimbursed for necessary expenses incurred in official duties. (Ord. #6-04, Feb. 2004)
14-109. **Training and continuing education.** The members of the municipal planning commission shall comply with the training and continuing education requirements set forth in *Tennessee Code Annotated*, title 13, chapter 4. (Ord. #6-04, Feb. 2004)
CHAPTER 2

SUBDIVISIONS

SECTION
14-201. Planning commission regulations--continued in effect.
14-202. Planning commission regulations--copies to be on file in the city clerk's office.

14-201. Planning commission regulations--continued in effect. Nothing in this code or the ordinance adopting this code shall be deemed to affect the validity of the subdivision regulations and industrial subdivision regulations promulgated by the Oak Ridge Municipal Planning Commission and approved by ordinances of the city council, or any amendments to such regulations approved by ordinance, and such regulations and ordinances are hereby recognized as continuing in full force and effect. (1969 Code, § 21-1, as amended by Ord. #6-04, Feb. 2004)

14-202. Planning commission regulations--copies to be file in the city clerk's office. A certified copy of the regulations referred to in § 14-201 shall be kept on file in the office of the city clerk where they shall be available for public inspection and use at all times during the business hours of such office. (1969 Code, § 21-2)
CHAPTER 3

ZONING

SECTION 14-301. Zoning code and ordinances continued in effect.

14-301. **Zoning code and ordinances continued in effect.** Nothing in this code or the ordinance adopting this code shall be deemed to affect the validity of the city's zoning code, being Part VI, Chapters 1 through 11, of the Oak Ridge Municipal Code, 1963, or any ordinance amending said zoning code or any ordinance amending the zoning map of the city or zoning or rezoning specific property in the city, and said zoning code and all such ordinances are hereby recognized as continuing in full force and effect. (1969 Code, § 26-1)
CHAPTER 4

FLOODPLAIN MANAGEMENT MEASURES

SECTION
14-401. Areas of special flood hazard.
14-402. Development permit required.
14-403. Standards of construction.
14-404. Interpretation of boundaries.
14-405. Appeals and variances.
14-406. Conflicting provisions.
14-407. Liability not created.

14-401. **Areas of special flood hazard.** Areas of special flood hazard identified by the Federal Insurance Administration in its flood hazard and flood insurance rate boundary maps, number 475441B, revised July 23, 1976, and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. Nothing in this chapter shall repeal or modify provisions of the floodway zone and floodway fringe regulations as set forth in the Oak Ridge Zoning Ordinance (Ordinance Number 13-66, April 29, 1966; Ordinance No. 40-68, November 14, 1968; and any subsequent amendments thereto). (1969 Code, § 9-301)

14-402. **Development permit required.** A development permit shall be required for all development in any area of special flood hazard, defined as any human-made change to improved or unimproved real estate, including but not limited to mining, dredging, grading, paving or drilling, in addition to excavation, filling or building, for which a zoning compliance permit is required under other ordinance provisions. Such permits shall be reviewed to assure that all other necessary permits have been or will be provided. Copies of all such permits shall be maintained on file with the development permit. Development permits or zoning compliance permits in areas of special flood hazard shall show:

1. Elevation in relation to mean sea level of the lowest floor (including basement) of all structures, and elevation of the one-hundred year flood (base flood) at the location of such structures.
2. Elevation to which any nonresidential structure has been floodproofed.
3. Certificate from a registered professional engineer or architect that any nonresidential floodproofed structure meets the floodproofing criteria of this chapter.
4. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development, subject to established procedures for a review of such proposals. (1969 Code, § 9-302)
14-403. Standards of construction. In areas of special flood hazard, the following standards shall apply:

(1) General. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage, anchored to prevent flotation, collapse or lateral movement, [and shall be] constructed by methods and practices that minimize flood damage. Any alteration, repair, reconstruction or improvements to a structure on which construction began after the effective date of this chapter shall meet the requirements for "new construction" above.

(2) All new and replacement water and sanitary sewer systems shall be designed to eliminate or minimize infiltration of floodwaters into the systems, and any discharges from sanitary sewer systems into floodwaters. On-site waste disposal systems shall be prohibited in flood hazard areas.

(3) Any new construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at least one foot above the base flood level. Any new construction or substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot above the base flood level or, together with attendant utility and sanitary facilities, shall be floodproofed, as provided in other ordinances, and shall have the certification of a registered professional engineer or architect that the structure is watertight below the base flood level, with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(4) In any mobile home parks located within areas of special flood hazard, the following standards shall be met:

(a) Mobile home anchors and mobile home ties shall meet the standards established by federal, state or local codes, whichever are more stringent.

(b) Mobile home spaces shall be elevated on compacted fill or pilings so that the lowest floor of the mobile home shall be at least one foot above the base flood level; any piling foundation shall be placed in stable soil no more than ten (10) feet apart; and any pilings more than six (6) feet above ground level shall be reinforced. (1969 Code, § 9-303)

14-404. Interpretation of boundaries. Where interpretation is needed as to the exact location of the boundaries of special flood hazard, the Oak Ridge City Manager or his authorized representative shall make the necessary interpretation. (1969 Code, § 9-304)

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¹Municipal code reference

Building, utility and housing codes: title 12.
14-405. **Appeals and variances.** (1) The board of zoning appeals is hereby designated to hear and decide appeals and requests for variances from the requirements of this chapter. In passing upon such appeals or variance requests, the board of zoning appeals shall consider all technical evaluations, relevant factors and standards; danger that materials may be swept onto other lands to the injury of others; danger to life and property due to flooding or erosion damage; any alternative locations, not subject to flooding, for the proposed use; susceptibility of the proposed use to flooding or erosion damage; safety of access at all times for ordinary and emergency vehicles; compatibility of the proposed use with other city plans, the floodplain management program or existing or proposed development; costs of providing governmental services during and after flood conditions; and such other flood-related factors as the board may deem relevant.

(2) Variances may be approved only if the variance would not result in increased flood levels or in additional threats to public safety, extraordinary public expense, create nuisances, cause fraud to or victimization of the public, or conflict with existing local laws or ordinances.

(3) Records shall be kept and procedures followed as with the requirements for other actions of the board of zoning appeals. (1969 Code, § 9-305)

14-406. **Conflicting provisions.** Whenever provisions of this chapter are in conflict with those of another city ordinance or code, the more strict provision shall govern. (1969 Code, § 9-306)

14-407. **Liability not created.** The degree of flood protection required by this chapter and other city ordinances and regulations is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by human-made or natural causes. This chapter and other city ordinances and regulations do not imply that land outside areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. These ordinances and regulations shall not create liability on the part of the City of Oak Ridge or by any officer or employee thereof for any flood damages that result from reliance on these ordinances or any administrative decision lawfully made thereunder. (1969 Code, § 9-307)
CHAPTER 5
EROSION CONTROL AND STORMWATER MANAGEMENT

SECTION
14-501. Purpose.
14-503. Erosion control and stormwater management plan.
14-504. Grading permit required.
14-505. Plan review/requirements of applicant.
14-506. Appeals from decisions of city manager or his designee.
14-507. Periodic inspection.
14-508. Fees.
14-509. Bond requirements.
14-510. Performance criteria.
14-511. Residential development; housing construction.
14-512. Existing areas with soil erosion problems.
14-513. Maintenance.
14-514. Correction by the city; collection of costs.
14-515. Violations unlawful.

14-501. Purpose. Within the City of Oak Ridge, soil erosion and storm water runoff from site excavation, construction and urban development contribute to: degradation of land, waters, and subsurface conditions, dusty conditions, clogged storm sewers, additional road maintenance costs, increased water runoff, groundwater contamination, and localized flooding.

It is the declared intent of the city to promote the conservation of natural resources, including the natural beauties of the land, streams and watersheds, hills and vegetation; to protect public health and safety, including the reduction or elimination of the hazards of earth slides, destabilization of karst terrain, mud flows, rock falls, erosion and siltation; and to minimize the impact of peak water discharges on downstream facilities, by minimizing the adverse effects of grading, cut and fill operations, surface water runoff, alterations in drainage patterns both above and below the surface, and soil erosion. Therefore, the following regulatory provisions of this chapter are adopted for erosion control and storm water management within the city limits. (Ord. #7-98, Feb. 1998, § 1)

14-502. Definitions. (1) "Antecedent Moisture Condition" (AMC). The degree of wetness or dryness in the soil which determines how much storm

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1Municipal code reference
Water and sewers: title 18.
water will be absorbed in the ground. The AMC influences the design of storm water control devices. Based on local and regional studies, an AMC I condition is assumed to correlate closely to actual runoff flows.

(2) "Cut." Portion of land surface or area from which earth has been removed or will be removed by excavation; also, the depth below original ground surface to excavated surface.

(3) "Detention basin." A permanent basin constructed to protect downstream facilities by providing temporary storage of surface water runoff on an excavated or developed site and for releasing the stored water at controlled rates not to exceed pre-development discharges under specified storm frequencies.

(4) "Downstream facilities." Any building structure, waterway, property or streets that can be impacted by runoff from property being graded and/or developed in excess of the pre-development discharge rates.

(5) "Erosion." Wearing away of land by action of wind, water, or gravity.

(6) "Erosion control and storm water management plan." The plan required before a grading permit may be issued. It shall consist of a narrative description and appropriate maps that spell out the methods, techniques and procedures to be followed to control erosion and manage storm water runoff from the site during and after development.

(7) "Erosion control measures." One or more of the following measures, or other methods of slowing or stopping the removal of soil and rock by wind, water or gravity, used singly or in combination, as appropriate:

(a) Diversion. A channel, or channel with supporting ridge (berm, dike or wall), constructed across a sloping land surface along the contour, or with predetermined grades, to intercept and divert surface runoff before it gains sufficient volume or velocity to create harmful erosion. It shall have capacity sufficient for containing storm water runoff at post-development discharge rates, and may have a vegetative lining if required by the anticipated velocities and/or the soil materials in the channel. Flow from a diversion is discharged into a natural area or a grassed waterway.

(b) Drains. Underground conduits or filter drains to reduce surface runoff or lower a high water table.

(c) Grade stabilization structures. Drop structures made of concrete, corrugated metal pipe or other suitable materials which dissipate the energy of flowing water by dropping it in a relatively short horizontal distance. These reduce the grade and therefore the velocity in grassed waterways or bare channels to non-eroding limits.

(d) Grassed waterways. A natural or constructed waterway, usually broad and shallow, covered with erosion resistant grasses used to carry surface water.
(e) **Land grading.** Re-shaping the ground surface by grading the planned slopes and configurations that will prevent excessive erosion.

(f) **Mulching.** The application of plant or other suitable materials on the soil surface to conserve moisture, reduce erosion, and aid in establishing plant cover.

(g) **Sediment barrier trap, basin or perimeter dike.** A temporary barrier or dam built across a waterway or water course, or at other locations to retain sediment and to permit vegetation and other erosion control features to be established on graded areas.

(h) **Urban gutter drain sediment barrier.** Temporary barriers used to prevent sediment from entering storm sewer systems before protective soil cover is established.

(i) **Urban stream bank protection.** Barriers placed along stream banks, including concrete, sod, rip rap, gabions, and flexible fabric forms filled with gravel or crushed rock, to withstand the erosive force of flowing water.

(j) **Vegetative protection.** Plant growth which reduces the impact and erosive effect of storm water for post-development soil conditions. Vegetation alone may not provide protection on soils that are unstable because of their structure, texture, internal water movement, or excessively steep slopes. Vegetative protection may be accomplished by short term seeding, to protect areas for 12 months or less, or by permanent seeding or sodding, to protect areas for more than one year.

(8) **"Excavation."** The act of removing dirt, soil or rock; also, the site of such activity. See "Cut."

(9) **"Fill."** Portion of land surface or area to which soil, rock or other materials have been or will be added; height above original ground surface after the material has been or will be added.

(10) **"Grade."** The slope or elevation of ground surface prior to and after cutting or filling.

(11) **"Grading."** Any operation or occurrence by which the existing site elevations are changed by cutting, filling, borrowing, stock piling, or where any ground cover, natural or human-made, is removed, or any buildings or other structures are removed or any water course or body of water, either natural or human-made, is relocated on any site, thereby creating an unprotected area. "Grading" shall be synonymous with "land disturbing activity."

(12) **"Groundwater."** Water below the land surface that is free to move under the influence of gravity.

(13) **"Karst features."** Visible or known features such as sinkholes, disappearing streams, cave entrances, and springs located on karst terrain. Karst terrain is landscape underlain by carbonate rocks, such as limestones and dolomites, have undergone dissolution by groundwater.
(14) "Owner." The person(s) or entity holding the registered title to property. The city property tax roll shall be prima facie evidence that the person(s) or entity listed therein is the registered owner.

(15) "Permit holder." The owner of property or owner's representative in whose name a permit has been applied for and issued by the city.

(16) "Pre-development discharge." The present storm water runoff from a site as of the adoption date of this ordinance and within the storm duration and frequency specified in this chapter.

(17) "Post development discharge." The calculated peak storm water discharge from a fully developed site within the storm duration and frequency specified in this chapter.

(18) "Remediated sinkhole." A sinkhole into which soil, rock, dirt, cement, or other material has been deposited in a manner which obstructs or enhances the drainage into the sinkhole.

(19) "Sediment." Rock, sand, gravel, silt, or other material deposited by the action of wind, water, or gravity.

(20) "Sinkhole." Any natural depression in the surface or ground formed by the subsurface removal of water, soil, rock, or other material, causing the formation of a collapse feature that exhibits internal drainage. Sinkhole depressions may occur gradually or abruptly. Most sinkholes have a closed contour.

(21) "Soil stabilization." Measures which protect soil from erosion.

(22) "Stripping." Any activity which removes or significantly disturbs the vegetative surface cover including clearing and grubbing operations.

(Ord. #7-98, Feb. 1998, § 2)

14-503. Erosion control and storm water management plan. (1) In order to minimize soil erosion and to protect areas from increased storm water runoff, an erosion control and storm water management plan (plan) shall be required whenever an activity upon property will involve any alterations of karst feature such as remediation of a sinkhole, when the removal of overburden uncovers karst features, clearing, grading, transporting, or other form of permanent or temporary disturbing of land by removal of vegetation or the movement of earth.

(a) Provision shall be made to accommodate increased runoff caused by changed soil and surface conditions during and after development. Post development storm water discharges to downstream facilities shall not exceed pre-development discharges from the site under the storm duration and frequencies specified in § 14-510(1) of this chapter.

(b) Parties who cause or allow stormwater runoff into karst features shall comply with current state laws respecting such drainage.
(c) Temporary soil stabilization measures shall be applied to disturbed areas when and where deemed necessary to minimize soil erosion.

(d) Permanent vegetation, improvements such as streets, storm sewers or other features capable of carrying storm water runoff in a safe manner, and diversions, grassed waterways, grade stabilization structures, and similar mechanical control measures required for the site, shall be installed as early during development of the area as possible.

(2) Erosion and storm water control measures shall be designed and provided in accordance with the requirements of this chapter. Areas that are being developed or excavated shall apply the following practical guidelines, fitting the various measures to the soils and topography so as to minimize soil erosion, karst collapse, and storm water runoff potential.

Erosion control and storm water management guidelines:

(a) Changes to predevelopment, natural drainage courses shall be minimized.

(b) Natural vegetation shall be retained and protected wherever feasible during construction.

(c) Where land must be stripped of vegetation during construction, the exposed area shall be limited to the smallest practical size, and duration of the exposure to the shortest practical time.

(d) If development occurs on property with karst features or immediate downstream areas have karst features, pre-development natural drainage courses shall be maintained as much as feasible.

(e) It is recommended that no structures be built within this contour line within the post-development contour line calculated for each sinkhole present on the property for a 24-hour duration storm of 100-year frequency (6.6 inches) as if the sinkhole was completely filled.

(f) Removal of overburden in areas with karst features shall be minimized.

(g) Retention of large trees adjacent to karst features.

(i) Existing healthy mature trees (e.g., with trunks over 12 inches in diameter) whose drip line canopy covers a karst feature should be protected during grading and construction wherever possible.

(ii) When it is clearly justifiable to remove a healthy tree, it should be replaced in kind by a tree or several trees in the same locale and maintained as required to ensure healthy growth.

(3) The city manager or his designated representative shall require that the plan be developed by a qualified licensed professional engineer, qualified licensed landscape architect or other qualified professional licensed to practice in the specific matters addressed in the plan when potentially hazardous or substantial soil erosion or drainage conditions exist, or when
development occurs on property with observable karst features, or where karst features are uncovered during removal of overburden.

(4) The property lot owner(s) shall be responsible for compliance with all provisions of this chapter.

(5) With the exception of the provisions set forth in § 14-511 the construction of a single-family or duplex (two unit) residence, or addition to an existing single-family or duplex unit, is exempt from submission of a plan.

(6) The installation, maintenance and repair of any underground public utility shall be exempt from the submission of a plan and the requirement for a grading permit; provided, however, that such land disturbing activity shall comply fully with the remaining provisions of this chapter.

(7) Farming or other accepted agricultural uses, as identified in the "Tennessee Right to Farm Act" [Acts 1982 (Adj. S.), Ch. 6091, Tennessee Code Annotated, § 43-26-103] or as hereafter amended are exempted from the provisions stated herein.

(8) Home gardens, home landscaping, or lawn preparations on existing lots or parcels shall be exempted from the provisions stated herein unless the possibility for erosion or alternation of drainage is such to necessitate a grading permit. (Ord. #7-98, Feb. 1998, § 3)

14-504. Grading permit required. Except as authorized in § 14-503, no individual or other legal entity shall engage in any land-disturbing activity which will modify the existing grade or may result in increased storm water runoff and soil or rock erosion from water or wind and the movement of sediments, including, but not limited to, clearing, stripping, grading, excavation, transporting, and filling unless a grading permit has first been obtained from the city manager or his designee. The owner of the property or his representative shall complete an application for the permit on forms provided by the city manager or his designee and shall include the erosion control and storm water management plan with the application. (Ord. #7-98, Feb. 1998, § 4)

14-505. Plan review/requirements of applicant. (1) No grading permit shall be issued until an erosion control and storm water management plan has been approved by the city manager or his designee. The plan shall comply with the minimum performance requirements set forth in § 14-510 of this chapter. The city manager or his designated representative may require additional information if deemed necessary. The complexity of the plan shall be commensurate with the severity of site conditions and potential for off-site damage. Each plan shall contain the name, address, and telephone number of the owner and the developer of the property to be graded, the registration seal and signature of the engineer or appropriate documentation of professional status of the person who designed the plan, and a brief project description. The plan shall include a map minimally drawn to a scale of 1 inch=100 feet,
identifying the site location, boundaries, adjacent properties, floodplain areas, ditch lines, sinkholes and any existing on and off-site structural or natural features of the land which have a significant impact on drainage or sediment control. The proposed erosion control measures and drainage devices to be constructed, and structural changes and improvements to the land, including any plans to remediate sinkholes and associated alterations in drainage patterns, shall be described in the plan. In addition, a time schedule for completion and periodic maintenance after completion, storm water runoff calculations when needed, pre-development and post development topography and final grade at two (2) foot contour intervals when needed, details of erosion control practices, clearing and grading limits, daily clean-up and site control practices, and any other information needed to accurately depict solutions to development situations may be required.

(2) The city manager or his designee shall review the plans and make a determination with respect to the sufficiency of the erosion control and storm water management plan. If the plan is sufficient and approved by the city, the applicant will be issued a grading permit. If the plan is determined insufficient, the city shall inform the applicant of deficiencies with the plan. After corrections and additions, the plan may be resubmitted to the city for final review and approval, and the issuance of a permit.

(3) In zoning districts requiring overall site development approval by the Oak Ridge Regional Planning Commission, the erosion control and storm water management plan shall be submitted to the planning commission for review and comment during the site review process prior to issuance of the grading permit by the city. (Ord. #7-98, Feb. 1998, § 5)

14-506. Appeals from decisions of city manager or his designee.

(1) Whenever the city manager or his designee shall reject or refuse to approve the mode or manner of construction proposed to be followed or materials to be used, or when it is claimed that the provisions of this chapter do not apply, or that an equally good or more desirable form of construction can be employed in any specific case, or when it is claimed that the true intent and meaning of this chapter or any of the regulations thereunder have been misconstrued or wrongly interpreted, the owner of such property or his duly authorized agent may appeal from the decision of the city manager or his designee to the board of building code appeals. Notice of appeal shall be in writing and filed within sixty (60) days after the decision is rendered by the city manager or his designee. A fee of thirty dollars ($30.00) shall accompany such notice of appeal which shall be returned to the appellant if successful.

(2) In case of a condition which, in the opinion of the city manager or his designee, is unsafe or dangerous, the city manager or his designee may, in his order, limit the time for such appeal to a shorter period.

(3) Appeals under this section shall be on forms provided by the city manager or his designee.
14-16

(4) The board of building code appeals shall meet and conduct a hearing on any appeal within thirty (30) days unless the appellant requests or consents to additional time.  (1969 Code, § 9-410)

14-507. Periodic inspection.  (1) During any development or construction operations covered by this chapter, it shall be the responsibility of the permit holder to conduct periodic inspections of the installed erosion-control and stormwater management measures and of nearby downstream facilities to determine if erosion and stormwater control is effective. Any damage to downstream facilities caused by on-site erosion, such as clogged storm sewers or inlets, shall be immediately repaired or cleaned by the permit holder.

(2) The city manager or his designee shall periodically make inspection of the graded site to ensure compliance with the requirements of this chapter and the authorized erosion control and stormwater management plan. If the city manager or his designee determines that significant erosion problems are occurring on a graded site despite approved protective practices, the permit holder will be required to take additional corrective actions to protect the adversely affected area. The specifications of the additional measures shall be part of an amendment to the erosion control and stormwater management plan.

(3) If it is determined that the permit holder has failed to comply with the approved plan, a correction notice shall immediately be served upon the permit holder in writing, setting forth the measures needed to come into compliance and specifying the time for such compliance. Where an immediate threat to public health and safety exists, verbal notice given by the city manager or his designee to immediately correct the problem shall be sufficient, but it shall be followed up by written notice. Failure to comply within the time specified shall subject the permittee to a stop-work order which shall remain in effect until the work in progress is in compliance with the specifications of the approved plan.  (1969 Code, § 9-411)

14-508. Fees. The fees for permits required for the inspection of graded sites shall be established by the city manager as provided for under § 1-203 of the city code of ordinances. No permit or amendment to a permit shall be valid until such fees have been paid.  (1969 Code, § 9-412)

14-509. Bond requirements. Prior to the issuing of a permit, the applicant may be required to provide a cash deposit, bond, certified check or other form of security acceptable to the city sufficient to complete the erosion control and stormwater management measures shown in the approved plan. The city manager or his designee shall set the amount and time of the bond based on the estimated cost of the plan. Within thirty (30) days of the completion and acceptance of all provisions of the approved plan, cash deposits or other legal arrangements or unexpended or unobligated funds thereof shall be refunded or terminated.  (1969 Code, § 9-413)
14-510. **Performance criteria.** In addition to the information requirements specified in § 14-505 of this chapter, the following performance criteria are minimum requirements for controlling soil erosion and storm water runoff from land-disturbing activities and shall be satisfied in each approved erosion control and storm water management plan.

Plans for effective storm water runoff and erosion control methods shall be formulated using design criteria and procedures in the latest editions of the United States Department of Agriculture, Soil Conservation Service Technical Release No. 55, Second Edition--June 1986, Urban Hydrology for Small Watersheds using the Antecedent Moisture Condition I (AMC-I), the United States Department of Agriculture in cooperation with the State of Tennessee Agriculture Experiment Station--November 1981, the Soil Survey of Anderson County, Tennessee, the Knox County, Tennessee Soil Conservation District, First Edition--June 1981, Erosion and Sediment Control Handbook, the Subdivision Regulations of the City of Oak Ridge, Tennessee, and other standard engineering procedures and references. The foregoing publications named shall be available to the public at cost at the City of Oak Ridge Municipal Building, and for review and reference at the Oak Ridge Public Library.

It shall be the property owner's responsibility to propose a specific practice or combination of practices that shall minimize soil from leaving the site and allow for storm water discharges from a fully developed site consistent with conditions in effect prior to the permitted development. Innovative alternative to the requirements stated herein shall also be considered when such alternatives meet or exceed the intent of this chapter:

1. **Storm water discharges.** Erosion control measures, storm water and drainage control measures, detention basins, pipes, structures and devices for the development shall be planned, designed, constructed, operated and maintained so that downstream peak discharges after full development are consistent with the pre-development conditions. All storm water improvements shall be designed to sufficiently handle the estimated peak discharge rates from the site using the following criteria: The post development peak discharge rate from a 24-hour duration storm of 25-year frequency (5.5 inches) shall not exceed the pre-development peak discharge rate from a 24-hour duration storm of 10-year frequency (4.8 inches). Emergency spillways shall be required in the design of detention facilities to permit safe passage of storms in excess of this storm criteria. When warranted by local controlling factors (such as location within a drainage basin, protection of downstream facilities, etc.), and based on sound engineering judgment, storm water detention requirements may be modified or waived or a more stringent storm frequency for the design of such improvements may be required. In addition, all swales, roads, etc., shall be designed to prevent flood damage to nearby buildings and other structures by being overtopped during a 24-hour duration storm of a 100-year frequency (6.6 inches) or to structurally carry the equivalent 100-year storm. For each sinkhole present on the property, calculations shall be made to determine the
post-development contour line for a 24-hour duration storm of 100-year frequency (6.6 inches) as if the sinkhole was completely filled.

(2) Protection of adjacent properties. Properties, rights-of-way and water courses adjacent to and below the site or immediately downstream from the land disturbance shall be protected from sediment deposition and storm water runoff. This may be accomplished by preserving a well-vegetated buffer strip at least 20 feet in width around the lower perimeter of the land disturbance; by installing perimeter controls such as sediment barriers (straw bales and silt fences), filters, dikes, or sediment basins; detention basins; or by a combination of such measures. For each sinkhole present on the property or which receives drainage from the property, calculations shall be made to determine the post-development contour line for a 24-hour duration storm of 100-year frequency (6.6 inches) as if the sinkhole was completely filled. Changes to terrain, including the remediation of a sinkhole or sinkholes, shall not move this contour line onto adjacent properties. If prior changes to terrain, the 100-year storm contour line is on adjacent property, changes to terrain shall not increase runoff into the sinkhole, without written permission from the relevant adjacent property owners.

(3) Protection of proposed development. (a) The main floor of all buildings, structures and extensions, existing buildings or structures shall be placed one foot above the elevation of the 100-year flood event. Foundations of all structures shall be designed to withstand flood conditions at the site.

(b) Land may be filled with these 100-year flood boundary limits provided such fill extends twenty-five (25) feet beyond all limits of any structures erected. If such fill areas occurs then the 100-year flood elevation contour shall be established based on finished contours.

(4) Temporary stabilization of disturbed areas and soil stockpiles. Temporary soil stabilization shall be applied to disturbed areas when and where deemed necessary to prevent soil erosion. Applicable soil stabilization practices include vegetative establishment, mulching, and the early application of gravel base on areas to be paved. Soil stabilization measures shall be selected to be appropriate for the time of year, site conditions, presence of karst features such as sinkholes, and estimated duration of use. Soil stockpiles not stabilized by vegetation must be stabilized or protected with sediment trapping measures to prevent soil loss.

(5) Establishment of permanent vegetation. A permanent vegetative cover shall be established on disturbed areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved which, in the opinion of the city manager or his designated representative, is mature enough to control soil erosion satisfactorily and to survive seasonal weather conditions. The successful establishment of living vegetation shall be guaranteed by the property owner for one (1) year from the initial planting. If it is determined by the city manager or his
designated representative that the vegetation will not withstand season weather conditions, the release of unobligated monies or bonds shall be delayed until such time as the ground cover reaches a satisfactory maturity.

(6) Timing and stabilization of sediment trapping measures. Sediment basins and traps, perimeter dikes, sediment barriers, and other temporary measures intended to trap sediment on-site shall be constructed as a first step in grading and be made functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions shall be seeded and mulched on a timely basis as dictated by weather conditions and the season of the year. These measures shall be maintained in good working order and shall remain in place until such time as the city deems the area to be stabilized. The sediment trapping requirement may be waived if the site conditions do not warrant its construction.

(7) Cut and fill slopes. Cut and fill slopes shall be designed and constructed in a manner which will minimize erosion. Consideration shall be given to the length and steepness of the slope, the soil type, upslope drainage area, groundwater conditions, the surrounding water courses, and other applicable factors. The following guidelines shall be used in formulating an adequate slope design.

(a) Earth cut slopes of 3 horizontal to 1 vertical, and 2 horizontal to 1 vertical fill slopes or less steep shall be preferred for erosion control, maintenance, and drainage concerns. When slopes in excess of 2 horizontal to 1 vertical are deemed necessary, the slope must be adequately stabilized to prevent erosion and degradation within 30 days of completion of the grading operations or as soon as possible to meet the growing season. The type and nature of this stabilization shall be designed and inspected during construction by a qualified licensed professional engineer.

(b) Sufficient topsoil to adequately cover the disturbed area shall be stockpiled and then used to cover the area prior to the establishment of vegetation.

(c) Soil surfaces roughened parallel to the contour shall be generally preferred to smooth surface on slopes. Under no condition shall furrows or tracks perpendicular to the contour be allowed on slopes.

(d) Diversions shall be constructed at the top of cut slopes where runoff from higher areas will damage property, cause soil erosion or prevent the establishment of vegetation on lower areas. Diversions or terraces may also be used to reduce slope length.

(e) When a natural sheetflow condition for runoff is to be disrupted, the concentrated storm water shall not be allowed to flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.

(f) All exposed karst features exposed by cutting of overburden must be examined by a qualified licensed professional for appropriate
mitigation procedures and the erosion control and storm water management plan shall be written or amended accordingly.

(g) All diversions (including terraced area diversions) and detention structures on cut surfaces of known karst features must be treated to minimize subsurface infiltration.

(8) Protection of storm sewer inlets. All storm sewer inlets which are operable during construction shall be protected with an urban gutter drain sediment barrier so that sediment laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment. Such barriers shall be removed after the land under disturbance is permanently protected against erosion by vegetative or mechanical means. Storm sewers shall be cleaned immediately if sediment clogs the effectiveness of the inlet to handle storm runoff.

(9) Working in or crossing wet water courses. Construction vehicles shall be kept out of wet water courses to the greatest extent possible. Where in-channel work is necessary, precautions shall be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) shall be restabilized immediately after in-channel work is completed. Where a wet water course must be crossed by construction vehicles regularly during construction, a temporary stream crossing shall be provided, the design of which must be approved by the city manager or his designated representative.

(10) Working in or crossing in floodway overlay zoning districts. Construction and disturbance activities in a floodway overlay zoning district in the City of Oak Ridge shall be required to provide evidence of obtaining appropriate licenses and permits that may be required by federal and state laws and regulations, or written waiver from such permits and licenses prior to the issuance of a grading permit by the city.

(11) Construction access routes. Wherever construction vehicles access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by runoff or vehicle tracking onto the paved surface by clearing the area at the entrance of all vegetation, roots, and other objectionable material and placing a gravel layer of 2-inch diameter stone at least six inches thick and 12 feet wide extending a minimum of 50 feet from the edge of the hard surface public road. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day or more often if deemed necessary. Sediment shall be removed from roads by shoveling or sweeping and be transported to a sediment controlled disposal area. Street washing shall be allowed only after sediment is removed in this manner.

(12) Disposition of temporary measures. All temporary erosion control measures shall be disposed of within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed, unless otherwise authorized by the city manager or his designated representative. Trapped sediment and other disturbed soil areas resulting from the disposition
of temporary measures shall be permanently stabilized to prevent further erosion.  (Ord. #7-98, Feb. 1998, § 6)

14-511. Residential development; housing construction.  (1) A grading permit shall be required prior to the initiation of grading work on any single or duplex (two unit) residential lot. Such permit shall be obtained by the owner of the lot or the representative from the city. Single-family and duplex residential development is exempt from requirements to submit an erosion control and storm water management plan; however, such work shall comply with the following criteria:

(a) Prior to beginning site grading, adequate temporary erosion control measures, including but not limited to, preserving natural buffer strips, straw bales and/or silt fences, shall be provided to trap soil from leaving the property onto the street or adjoining property.

(b) A sufficient layer of gravel extending onto the property from the public street and free of vegetation, roots, etc., shall be provided to minimize the tracking of sediment onto the street by runoff or vehicles.

(c) If sediment is transported from the property onto the public streets, the streets shall be cleaned thoroughly at the end of each day, or more often if deemed necessary, by shoveling or sweeping the material back onto the property.

(d) Permanent swales/dikes along adjoining lot lines shall be provided as needed to direct on-site drainage to the street or existing drainage ways.

(e) Removal of sediment traps shall not occur until after final seeding, strawing and mulching of disturbed earth and the establishment of sufficient grass cover to reduce erosion to pre-disturbance levels.

(f) Roof gutters and other permanent storm drainage systems shall be directed to avoid damage to adjacent property owners and city streets.

(2) An erosion control and storm water management plan shall be required for single-family or duplex residential development if the following circumstances exist: karst features such as sinkholes on or nearby lot, adjoining lakes or streams, lots with slopes exceeding 15% natural grade, floodplain development or large drainage ditches to be crossed by driveways. The requirement that the plan be developed by a qualified licensed professional engineer, qualified licensed landscape architect, or other qualified professional licensed to practice in the specific matters addressed in the plan, may be waived by the city manager or his designee.

(3) The property lot owner(s) shall be responsible for compliance with provisions of this section.  (Ord. #7-98, Feb. 1998, § 7)

14-512. Existing areas with soil erosion problems. Upon written notification from the city manager or his designee, the owner of any parcel of
land which exhibits unstable or eroding soil conditions and impacts downstream properties, rights-of-way or watercourses, whether such conditions exist before or arise after the enactment of this chapter, shall correct the problem within a sixty-calendar-day period. Upon written request to the city manager, the period for construction may be extended upon request if seasonal conditions warrant and temporary control measures are installed. Slopes which are found to be eroding excessively shall be provided stabilizing measures until the problem is corrected. Minimum corrective measures may include stabilizing slopes and revegetating all exposed soil surfaces. Before commencing corrective measures, the owner shall consult with the city manager or his designee to determine an acceptable method of correction. A plan for soil-erosion control shall be submitted to the city manager or his designee for final review and approval prior to the initiation of corrective measures. (1969 Code, § 9-440)

**14-513. Maintenance.** (1) All temporary and permanent erosion-control and stormwater management measures shall be maintained and repaired as needed by property owners to assure continued performance of their intended function as determined by the city manager or his designee. Normal maintenance shall include but not be limited to mowing and removal of brush, trees and miscellaneous obstructions and liming and fertilizing on a timely basis.

(2) In cases where permanent stormwater management measures are designed and constructed to serve multiple property owners in a development, the city may accept permanent responsibility for maintenance and repair of such measures provided they are satisfactorily constructed, maintained and repaired by the property owner at the time of acceptance. (1969 Code, § 9-441)

**14-514. Correction by the city; collection of costs.** (1) If it is determined that a property owner or his representative has failed to correct existing unstable or eroding soil conditions which impact downstream properties, rights-of-way or watercourses or has failed to maintain temporary and permanent erosion-control and stormwater management measures installed after the enactment of this chapter or has failed to comply with any of the provisions of this chapter, a corrective notice shall be served on the property owner in writing setting forth the measures needed to come into compliance and specifying time for such compliance. When an immediate threat to public health and safety exists, oral notice given by the city manager or his designee to immediately correct the problem shall be sufficient, but it shall be followed up by written notice.

(2) Should the property owner fail to remedy the above conditions within the prescribed time, the city manager shall remedy the condition or cause the same to be done by an appropriate city department or other contractual arrangement. Upon the completion of the work, the city manager shall determine the reasonable cost thereof and bill the owner of the property. Should
the owner fail to remit to the city the amount of such charge within thirty (30) days from the date of such notice, the amount of the bill shall be certified to the finance director by the city manager and shall constitute a lien upon the property for which the expenditure was made. (1969 Code, § 9-442)

14-515. **Violations unlawful.** Violations of any of the provisions of this chapter shall be punishable by a penalty not to exceed fifty dollars ($50.00). Each separate day a violation exists may constitute a separate offense. (Ord. #7-98, Feb. 1998, § 8, modified)