



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41

## Chapter 3.5 STORMWATER ORDINANCE

**Chapter 3.5 - STORMWATER**

**ARTICLE I.**

**In General**

Section 3.5-1.	Title of chapter.
Section 3.5-2.	Purpose.
Section 3.5-3.	Administration of chapter.
Section 3.5-4.	Definitions.
Section 3.5-5.	Performance and Indemnity Agreement.
Section 3.5-6.	Right of entry.
Section 3.5-7.	Notice of Violation.
Section 3.5-8.	Penalties.
Section 3.5-9.	Board of Zoning Appeals.
Section 3.5-10.	Appeals.
Section 3.5-11.	Severability.
Sections 3.5-12-17.	Reserved.

**ARTICLE II.**

**Site Development Criteria**

Section 3.5-18.	Purpose.
Section 3.5-19.	Approval of plan required prior to issuance of building permit.
Section 3.5-20.	Partial Plat process.
Section 3.5-21.	General design criteria.
Section 3.5-22.	Site development design manuals.
Section 3.5-23.	Stormwater detention.
Section 3.5-24.	Erosion and sediment control.
Section 3.5-25.	Objectives of erosion and sediment control.
Section 3.5-26.	Site development permit required before site development.
Section 3.5-27.	Site development permit requirements.
Section 3.5-28.	Emergency Site Development Permit.
Section 3.5-29.	Fees.
Section 3.5-30.	Violation of a site development permit.
Section 3.5-31.	Design standard for detention and/or retention ponds.
Section 3.5-32.	Requirements for developments draining to a sinkhole.
Section 3.5-33.	Hydrologic and hydraulic computations.
Section 3.5-34.	Maintenance of stormwater facilities.
Section 3.5-35.	Acceptance of streets and stormwater systems within public rights-of-way.
Section 3.5-36.	First Flush requirements for detention ponds.



**Knox County, Tennessee  
Department of Engineering & Public Works**



- 42 Section 3.5-37. Technical requirements for Special Pollution Abatement Permits.
- 43 Section 3.5-38. Additional permits required.
- 44 Section 3.5-39. NPDES permits.
- 45 Sections 3.5-40-49. Reserved.

46

47 **ARTICLE III. Illicit Connections and Illegal Dumping**

- 48 Section 3.5-50. Findings of fact.
- 49 Section 3.5-51. Objectives.
- 50 Section 3.5-52. Prohibitions.
- 51 Section 3.5-53. Notification of spills and illicit discharges.
- 52 Section 3.5-54. Requirements for monitoring.
- 53 Sections 3.5-55-60. Reserved.

54

55

56 **ARTICLE I. IN GENERAL**

57

58 **Section 3.5-1. Title of chapter.**

59

60 This chapter shall be known as Chapter 3 and may be cited as the Knox County Stormwater  
61 Management Ordinance, and shall replace in entirety Ordinance 0-00-11-105, adopted in  
62 December 2000. This chapter shall apply to all watersheds located within the jurisdiction of  
63 Knox County.

64

65

66 **Section 3.5-2. Purpose.**

67

68 The purpose of this chapter is to consolidate all regulations pertaining to the stormwater system  
69 and the local street system and to accomplish the following:

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

**Section 3.5-3. Administration of chapter.**

The Engineering Director and the engineering staff under the Director's supervision shall administer the provisions of this chapter.

**Section 3.5-4. Definitions.**



Knox County, Tennessee  
Department of Engineering & Public Works



86 Unless specifically defined in this section, words or phrases used in this chapter shall be  
87 interpreted so as to give them the meaning they have in common usage, and to give this chapter  
88 its most reasonable application.

89 **1-year frequency storm** - A storm event defined to be 2.5 inches in 24 hours or other  
90 such magnitude the Engineering Director shall establish based upon scientific and  
91 engineering information.

92 **2-year frequency storm** - A storm event with a fifty (50) percent chance of being  
93 equaled or exceeded in a given year. Defined to be 3.3 inches in 24 hours or other such  
94 magnitude the Engineering Director shall establish based upon scientific and engineering  
95 information.

96 **5-year frequency storm** - A storm event with a twenty (20) percent chance of being  
97 equaled or exceeded in any given year. Defined to be 4.1 inches in 24 hours or other  
98 such magnitude the Engineering Director shall establish based upon scientific and  
99 engineering information.

100 **10-year frequency storm** - A storm event with a ten (10) percent chance of being  
101 equaled or exceeded in any given year. Defined to be 4.8 inches in 24 hours or other  
102 such magnitude the Engineering Director shall establish based upon scientific and  
103 engineering information.

104 **25-year frequency storm** - A storm event with a four (4) percent chance of being  
105 equaled or exceeded in any given year. Defined to be 5.5 inches in 24 hours or other  
106 such magnitude the Engineering Director shall establish based upon scientific and  
107 engineering information.

108 **50-year frequency storm** - A storm event with a two (2) percent chance of being  
109 equaled or exceeded in any given year. Defined to be 6.1 inches in 24 hours or other  
110 such magnitude the Engineering Director shall establish based upon scientific and  
111 engineering information.

112 **100-year frequency storm** - A storm event with a one (1) percent chance of being  
113 equaled or exceeded in any given year. Defined to be 6.5 inches in 24 hours or other  
114 such magnitude the Engineering Director shall establish based upon scientific and  
115 engineering information.

116 **500-year frequency storm** - A storm event with a one-fifth (1/5) of one (1) percent  
117 chance of being equaled or exceeded in any given year. Defined to be 7.6 inches in 24  
118 hours or other such magnitude the Engineering Director shall establish based upon  
119 scientific and engineering information.

120 **Administrative Plat** – A plat prepared and certified by a Registered Land Surveyor and  
121 approved or denied for recording by the Metropolitan Planning Commission (MPC)  
122 through staff administrative procedures. A plat shall be classified as an Administrative  
123 Plat when it meets one or more of the following criteria: 1) It divides one tract into no



Knox County, Tennessee  
Department of Engineering & Public Works



124 more than two lots; 2) It combines existing lots into no more than two lots; 3) It adjusts  
125 the common lot line(s) between two existing recorded lots; 4) It is for the purpose of  
126 recording an easement or other new information and no subdivision of land is involved;  
127 or, 5) It qualifies as an exempt or corrected plat as defined by the Knoxville-Knox  
128 County Minimum Subdivision Regulations.

129 **Best Management Practices Manual (BMP Manual)** - A manual produced by the City  
130 of Knoxville containing best management practices for use on site development plans and  
131 construction projects.

132 **Blue-Line Stream** - Any stream shown on the 7.5 minute USGS Quad Maps, unless the  
133 Tennessee Department Of Environmental Conservation has determined that the stream is  
134 not designated as “Waters of the State.”

135 **Board of Environmental Appeals** - Appointed by the Mayor and confirmed by County  
136 Commission to hear appeals filed by any person incurring a civil penalty or damage  
137 assessment imposed pursuant to Section 22.5-8 of the Stormwater and Street Ordinance.

138 **Buffer Zone** - A naturally undisturbed, vegetated and pervious streamside zone that is  
139 protected from clearing, grading, filling, paving, building, or other destruction of the  
140 naturally vegetated state.

141 **Condominium (Condo) Development** - A development of attached or detached units  
142 where the individual units take access from a private drive that is neither a Joint  
143 Permanent Easement nor County Right-of-Way.

144 **Covenants by Lessee for Maintenance of Stormwater Facilities on Leased Property**  
145 – A legal document executed by a Lessee and recorded with the Knox County Register of  
146 Deeds guaranteeing proper maintenance of stormwater facilities during the term of the  
147 Lessee’s lease and the proper removal of the water quality facilities at the end of the term  
148 of the Lessee’s lease.

149 **Covenants by Property Owner for Permanent Maintenance of Stormwater Facilities**  
150 – A legal document executed by the Property Owner, or a Homeowners’ Association as  
151 owner of record, and recorded with the Knox County Register of Deeds guaranteeing  
152 perpetual and proper maintenance of stormwater facilities.

153 **Detention** - A practice to store stormwater runoff by collection as a temporary pool of  
154 water and provide for its gradual (attenuated) release and thereby control peak discharge  
155 rates.

156 **Development Certification** - As-built, field-verified plans signed and sealed by a  
157 registered Professional Engineer and a Registered Land Surveyor, both licensed to  
158 practice in the State of Tennessee, showing contours, elevations, grades, locations,  
159 drainage and hydraulic structures, and detention basin volumes.

160 **Development, large residential and commercial** - Any development, commercial,  
161 office, industrial, multiple single family lots, any non-residential use, or any development



Knox County, Tennessee  
Department of Engineering & Public Works



162 of a single residential lot with a disturbed area of more than ten thousand (10,000) square  
163 feet.

164 **Development, small single family residential** - Development of a single recorded  
165 residential lot with less than ten thousand (10,000) square feet of disturbed area.

166 **Development, utilities** – Physical alteration of any location for the purpose of installing  
167 utilities. This includes, but is not limited to, providing access to a site, clearing of  
168 vegetation, grading, earth moving, providing utilities, other services such as parking,  
169 altering land forms, and installing erosion control systems.

170 **Downstream** - Downgradient from the lowest point of each subwatershed in a  
171 development.

172 **Discharge** - Dispose, deposit, spill, pour, inject, seep, dump, leak or place by any means,  
173 or that which is disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or  
174 placed by any means including any direct or indirect entry of any solid or liquid matter  
175 into the stormwater system by any means intentional or otherwise.

176 **Disturbed Area** - Portion of any site that has been altered from existing conditions,  
177 including but not limited to the following: providing access to a site, clearing of  
178 vegetation, grading, earth moving, providing utilities and other services such as parking  
179 facilities, stormwater management and erosion control systems, potable water and  
180 wastewater systems, altering land forms, or construction or demolition of a structure on  
181 the land.

182 **Erosion** - The removal of soil particles by the action of water, wind, ice or other  
183 geological agents, whether naturally occurring or acting in conjunction with or promoted  
184 by anthropogenic activities or effects.

185 **Extended detention** - A practice to store stormwater runoff by collection as a temporary  
186 pool of water and provide for its gradual (attenuated) release over a minimum of twenty-  
187 four (24) hours and no more than seventy-two (72) hours and thereby control peak  
188 discharge rates and allow for gravity-driven settling of some types of pollutants. A  
189 practice which is used to control peak discharge rates, and which provides gravity settling  
190 of pollutants.

191 **First flush** - The initial or early stages of stormwater runoff from a storm event which  
192 commonly delivers a disproportionately large amount of previously accumulated  
193 pollutants due to the rapid rate of runoff. The first flush is defined as the first one-half  
194 (1/2) inch of direct runoff from the contributing drainage basin.

195 **Floodplain** - For a given flood event, that area of land temporarily covered by water  
196 which adjoins a watercourse.

197 **Hydraulic** - Pertaining to, involving, moved or operated by a fluid, especially water,  
198 under pressure or under a gravity-driving force.



Knox County, Tennessee  
Department of Engineering & Public Works



- 199           **Hydrologic** - Pertaining to the scientific study of the properties, distribution, and effects  
200           of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.
- 201           **Illicit discharge** - Any discharge to the stormwater system that is not composed entirely  
202           of stormwater and not specifically exempted in Article III.
- 203           **Impervious area** - Impermeable surfaces, such as pavement or rooftops, which prevent  
204           the percolation of water into the soil.
- 205           **Infiltration** - A practice designed to promote the recharge of groundwater by  
206           containment and concentration of stormwater in porous soils.
- 207           **Infiltration basin** - An impoundment made by excavation or embankment construction  
208           to contain and infiltrate runoff into the soil layer.
- 209           **Land Development Manual (LDM)** - Manual produced by the City of Knoxville that  
210           provides additional information about the specifics of the Stormwater and Street  
211           Ordinance.
- 212           **Lessee** – A lessee occupying real property pursuant to a lease agreement entered into  
213           prior to February 4, 1987, which contains no contractual provisions requiring the landlord  
214           to execute Property Owner’s covenants, whose site development plan is five (5) acres or  
215           less, and whose use of the real property will not create environmental hazards.
- 216           **Main stream** - A stream on which floods are controlled by the Tennessee Valley  
217           Authority reservoir system, i.e., the Tennessee and Holston Rivers.
- 218           **Major storm** - A 100-year design storm or a storm that has a probability of one (1)  
219           percent chance in any given year.
- 220           **Natural Resources Conservation Service (NRCS)** - An organization within the U.S.  
221           Department of Agriculture that has published standard drainage procedures in the form of  
222           Technical Release No. 55. Formerly known as the Soil Conservation Service (SCS).
- 223           **Outfall** - The terminus of a stormwater system where the contents are released.
- 224           **Parking area** - The off-street facility including parking spaces along with adequate  
225           provision for drivers and aisles for maneuvering and giving access, and for entrance and  
226           exit, designed to be usable for the parking of vehicles.
- 227           **Partial plat** - A survey plat prepared and certified by a Registered Land Surveyor for  
228           recording as an exhibit to a written legal document that describes and establishes property  
229           easements and access for stormwater facilities. Only that portion of the total property  
230           necessary to show new easements relative to the property boundaries and all other  
231           conflicting property rights or uses must be included.
- 232           **Peak flow** - The maximum instantaneous rate of flow of water at a particular point  
233           resulting from a storm event.
- 234           **Peak flow attenuation** - The reduction of the peak discharge of a storm.



Knox County, Tennessee  
Department of Engineering & Public Works



235 **Performance and Indemnity Agreement** - A contract between the Property Owner,  
236 Lessee or Developer and the County that assures construction and compliance as per site  
237 development plans approved by the Department of Engineering and in the case of a  
238 Lessee, assures the Lessee's proper maintenance of stormwater facilities during the term  
239 of its lease, and the proper removal of water quality facilities by the Lessee at the end of  
240 the term of its lease.

241 **Person** - Any individual, firm, corporation, partnership, association, organization or  
242 entity, including governmental entities, or any combination thereof.

243 **Redevelopment** - The improvement of 50% of the assessed value of the lot, building, or  
244 lot use.

245 **Restaurant** - An establishment or facility where food is prepared and sold.

246 **Retention** - A practice designed to store stormwater runoff by collection as a permanent  
247 pool of water without release except by means of evaporation, infiltration, or attenuated  
248 release when runoff volume exceeds storage capacity of the permanent pool.

249 **Riprap** - A combination of large stone, cobbles and boulders used to line channels,  
250 stabilize stream banks, and reduce runoff velocities.

251 **Runoff** - The water resulting from precipitation that is not absorbed by the soil.

252 **Sanitary sewer** - A system of underground conduits that collect and deliver sanitary  
253 wastewater to a wastewater treatment plant.

254 **Sanitary wastewater** - Wastewater from toilets, sinks and other plumbing fixtures.

255 **Sewage** - Human wastes carried by water from residences, buildings, industrial  
256 establishments or other places, together with such industrial wastes, stormwater or other  
257 water as may be present; or any substance discharged from a sanitary sewer collection  
258 system.

259 **Sinkhole** - (1) A naturally occurring depression where drainage collects in the earth's  
260 surface that is a minimum of two (2) feet deep. These depressions are typically denoted  
261 as closed contours and are shown as hachured contours on the City of Knoxville's  
262 Geographic Information System, or

263 (2) A hole, fissure or other opening in the ground, often underlain with  
264 limestone, dolomite or other rock formation that provides for and is being designated as a  
265 natural conduit for the passage of stormwater.

266 For both 1 and 2 above, the extent of the area considered to be a sinkhole is at a minimum  
267 the limits determined by the 100-year water surface elevation, assuming plugged  
268 conditions (0 cfs outflow).

269 **Site Development** - To physically alter a site. Site development includes, but is not  
270 limited to, providing access to a site, clearing of vegetation, grading, earth moving,  
271 providing utilities and other services such as parking facilities, stormwater management



Knox County, Tennessee  
Department of Engineering & Public Works



272 and erosion control systems, potable water and wastewater systems, altering land forms,  
273 or construction or demolition of a structure on the land.

274 **Stormwater** - Runoff from rain, snow or other forms of precipitation, resulting in surface  
275 runoff and drainage.

276 **Stormwater system** - The system of roadside drainage, roadside curbs and gutters, curb  
277 inlets, swales, catch basins, manholes, gutters, ditches, pipes, lakes, ponds, sinkholes,  
278 channels, creeks, streams, storm drains, and similar conveyances and facilities, both  
279 natural and manmade, located within the city which are designated or used for collecting,  
280 storing, or conveying stormwater, or through which stormwater is collected, stored or  
281 conveyed, whether owned or operated by the city or other person.

282 **Swale** - A natural or manmade depression or wide shallow ditch used to route or filter  
283 runoff.

284 **Upstream** - Upgradient of the lowest point of each subwatershed of a development.  
285

286 **Utility, public or private** – any agency which under public franchise or ownership, or  
287 under certification of convenience and necessity provides the public with electricity,  
288 natural gas, steam, communication, rail transportation, water, sewage collection, or other  
289 similar service.

290 **Vegetation** - Collection of plant life, including trees, shrubs, bushes, and grass.

291 **Wastes, industrial/commercial** - Liquid or other wastes resulting from any process of  
292 industry, manufacture, trade or business, or from the development of any natural  
293 resources.

294 **Wastes, other** - Decayed wood; sawdust; shavings; fallen bark; fallen leaves; lawn  
295 clippings; animal wastes; used or previously applied lime; garbage; trash; refuse, loose  
296 used paper, paper products, plastic containers, or metal containers; ashes, offal, discarded  
297 tar; discarded paint; discarded or uncontained solvents; used, discarded, or spilled  
298 petroleum products, antifreeze, motor vehicle fluids; used or discarded tires, gas tanks, or  
299 chemicals; or any other used, uncontained, or unpackaged, or disposed of materials which  
300 may discharge to or otherwise enter the stormwater system.  
301  
302

303 **Section 3.5-5. Performance and Indemnity Agreement.**

304 In order to ensure that any site development complies with the requirements of this chapter, the  
305 Engineering Director shall have the authority to require a Performance and Indemnity  
306 Agreement, together with a letter of credit, a cashier's check, or a surety bond from an approved  
307 financial institution or insurance carrier which guarantees satisfactory completion of the project  
308 and names the city as beneficiary, and in the case of a Lessee, assures the Lessee's proper  
309 maintenance of stormwater facilities during the term of its lease and the proper removal of water  
310 quality facilities by the Lessee at the end of the term of its lease. The security shall be provided  
311 by the property owner, Lessee or developer in a form and in an amount to be determined by the



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



312 Department of Engineering based on submission of plans and actual construction or potential  
313 remediation expenses. In addition, a Lessee shall pay the city an amount determined by the  
314 Engineering Director, that in no event shall be less than \$5,000.00, to compensate the city for  
315 any perpetual maintenance that may be required after the expiration of the Lessee's lease.  
316  
317

318 **Section 3.5-6. Right of entry.**

319 The Engineering Director or his designated representatives may enter upon any property which  
320 discharges or contributes, or is believed to discharge or contribute, to stormwater runoff or the  
321 stormwater system; stream; natural drainage way; or other stormwater system during all  
322 reasonable hours to monitor, remove foreign objects or blockages, and to inspect for compliance  
323 with the provisions of this chapter.  
324  
325

326 **Section 3.5-7. Notice of Violation.**

327 Whenever the Engineering Director or his representative determines that a violation of any  
328 provision of this chapter has occurred, or that work does not have a required plan or permit, or  
329 that work does not comply with an approved plan or permit, the representative may issue a  
330 Notice of Violation to the property owner, utility, facility operator, Lessee, tenant, contractor,  
331 permittee, the equipment operator and/or any other person or entity doing work on the site. The  
332 Notice of Violation shall:

- 333 (a) Be in writing;
- 334 (b) Include a description of the property sufficient for identification of where violation has  
335 occurred;
- 336 (c) List the violation;
- 337 (d) State the action required;
- 338 (e) Provide a deadline for compliance or to stop work.  
339  
340

341 **Section 3.5-8. Penalties.**

- 342 (a) Any person violating the provisions of this chapter shall be guilty of a misdemeanor and  
343 punished as provided in the general provisions of the County Code. Each day that a  
344 continuing violation of this chapter is maintained or permitted to remain shall constitute a  
345 separate offense.
- 346 (b) Any person violating the provisions of this chapter may be assessed a civil penalty by the  
347 county of not less than fifty dollars (\$50.00) or more than five thousand dollars  
348 (\$5,000.00) per day for each day of violation. Each day of violation shall constitute a  
349 separate violation. The county may also recover all damages proximately caused to the  
350 county by such violations.
- 351 (c) In assessing a civil penalty, the county may consider:



**Knox County, Tennessee  
Department of Engineering & Public Works**



- 352 (1) The harm done to the public health or the environment;
- 353 (2) Whether the civil penalty imposed will be a substantial economic deterrent to
- 354 the illegal activity;
- 355 (3) The economic benefit gained by the violator;
- 356 (4) The amount of effort put forth by the violator to remedy this violation;
- 357 (5) Any unusual or extraordinary enforcement costs incurred by the county;
- 358 (6) The amount of penalty established by ordinance or resolution for specific
- 359 categories of violations; and
- 360 (7) Any equities of the situation that outweigh the benefit of imposing any penalty
- 361 or damage assessment.
  
- 362 (d) In addition to the civil penalty in subsection (b) above, the county may recover all
- 363 damages proximately caused by the violator to the county, which may include any
- 364 reasonable expenses and attorney's fees incurred in investigating, enforcing and/or
- 365 correcting violations of this chapter.
  
- 366 (e) The county may bring legal action to enjoin the continuing violation of this chapter, and
- 367 the existence of any other remedy, at law or in equity, shall be no defense to any such
- 368 actions.
  
- 369 (f) The remedies set forth in this section shall be cumulative, not exclusive, and it shall not
- 370 be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth
- 371 herein has been sought or granted.

372  
373  
374  
375 **Section 3.5-9. Appeals.**

376  
377 Any person aggrieved by the imposition of a civil penalty or damage assessment as provided by  
378 this chapter may appeal said penalty or damage assessment to Knox County Board of Zoning  
379 Appeals.  
380

381 **Section 3.5-10. Severability.**

382  
383 Each separate provision of this chapter is deemed independent of all other provisions herein so  
384 that if any provision or provisions of this chapter shall be declared invalid, all other provisions  
385 thereof shall remain enforceable.  
386

387  
388  
389 **Sections 3.5-11--3.5-17. Reserved.**

390  
391  
392 **ARTICLE II. SITE DEVELOPMENT CRITERIA**



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



393

**Section 3.5-18. Purpose.**

394  
395

396 This article is adopted to improve public safety, to control the rate of flow of stormwater, to  
397 minimize increases in the peak flow rates of stormwater runoff caused by site development  
398 within the county, to control new site development, to minimize any detrimental effect on water  
399 quality by the completed facility, and to avoid such effects during construction.

400

401

**Section 3.5-19. Approval of plan required prior to issuance of a building permit.**

402  
403

404 No building permit shall be issued until the required site development plan and stormwater  
405 facilities are approved by the Department of Engineering & Public Works, and the portion of the  
406 property required for stormwater facilities is recorded as a permanent drainage, water quality,  
407 and/or access easement, except that a Lessee shall be required to record a drainage, water quality  
408 and/or access easement running only through the term of its lease.

409

**Section 3.5-20. Partial Plat process**

410

411

(a) In limited situations, the Partial Plat Process may be used to establish easements for  
412 stormwater facilities, such as detention and retention basins, water quality devices, access  
413 from a public road, storm drain pipes, and open drainage ditches, as an alternative to  
414 dedicating easements by recording a subdivision plat.  
415

416

(b) The Partial Plat Process allows (1) a property owner to create permanent easements, and  
417 (2) a Lessee to create easements running through the term of its lease, by recording a  
418 written legal document in which the easements are shown and defined on attached survey  
419 plat and written property description exhibits. All exhibits shall be prepared on letter or  
420 legal-sized paper, certified by a Registered Land Surveyor, and recorded with the Knox  
421 County Register of Deeds. At the discretion of the Law Director, the written document  
422 may be a form document provided by the Department of Law or may be a document  
423 prepared by the property owner's or Lessee's attorney and approved by the Department  
424 of Law. Survey plat and property description exhibits shall be approved by the  
425 Department of Engineering & Public Works.  
426

427

(c) The Partial Plat Process is not an option in the following situations:

428  
429

(1) When any portion of a pre-existing easement would be relocated or abandoned.

430

(2) If the Law Director or Engineering & Public Works Director decides, in  
431 unforeseen or unusual circumstances, that this process shall not be an option.  
432  
433



**Knox County, Tennessee  
Department of Engineering & Public Works**



434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474

- (d) The Partial Plat Process is an option for those sites with the following:
- (1) An existing survey plat of the entire property recorded with the Knox County Register of Deeds.
  - (2) A Site Development Plan approved by the Department of Engineering & Public Works and showing the proposed easements.
  - (3) A legal document, "Covenants by Property Owner for the Permanent Maintenance of Stormwater Facilities" in the case of a property owner, or "Covenants by Lessee for the Maintenance of Stormwater Facilities on Leased Property" in the case of a Lessee, approved by the Department of Engineering & Public Works and recorded with the Knox County Register of Deeds.
  - (4) A Special Pollution Abatement Permit (SPAP) approved by the Department of Engineering & Public Works, if one was required.

**Section 3.5-21. General design criteria.**

- (a) The Director of Engineering & Public Works or his representative has the authority to adopt site development design criteria.
- (b) The standard method of drainage computation shall be as set forth in Article II, Hydrologic and hydraulic computations.
- (c) The stormwater system, excluding stormwater detention ponds, water quality control facilities and sinkholes, shall be designed to accommodate a 10-year return frequency 24-hour duration storm, except for those facilities which would flood public roads classified as locals, collectors or arterials. A 25-year storm runoff prevention plan shall be used to prevent flooding of local roads and collectors, and a 50-year storm runoff prevention plan shall be used to prevent flooding of arterial streets. A 100-year design storm shall be used to prevent flooding of all new structures and have no additional adverse impact on existing structures. For site development on blue-line streams included in the Flood Insurance Study, the Knox County Flood Damage Protection Resolution shall govern. All stormwater systems shall be designed to have no additional adverse impact on upstream and adjacent property in the 50-year storm, unless an adequate permanent drainage easement is obtained.
- (d) For drainage generated by areas greater than 200 acres, the flow for a 100-year storm shall be computed. Such flow may exceed the capacity of facilities designed to comply with the requirements of lesser floods as noted in paragraph (c) above, and shall be contained in the public right-of-way or a permanent drainage easement on the property



**Knox County, Tennessee  
Department of Engineering & Public Works**



475 being improved or developed. Pipes and culverts designed for a 100-year storm shall be  
476 constructed of reinforced concrete if such pipes or culverts lie in public lands or  
477 easements.

478  
479 (e) Material for pipes used for conveyance of stormwater within Knox County shall be in  
480 accordance with the following:

481  
482 (1) Cross drains or pipe under the pavement surfaces, and any pipe, culvert, or  
483 drainage system dedicated to Knox County, a private individual or a  
484 Homeowners' Association, whether inside or outside the right-of-way, can be  
485 constructed of RCP, HDPE, or CMP, subject to the approval of the Director of  
486 Engineering & Public Works. It shall be the responsibility of the engineer to  
487 provide all necessary design, date, and installation details for construction to (1)  
488 ensure failure will not occur, and (2) prevent flooding or potential property  
489 damage on adjacent properties or rights-of-way.

491 (f) To comply with Federal mandates, protect stream water quality, and to reduce flood  
492 insurance rates for Knox County residents, development or significant redevelopment of land  
493 adjacent to or containing a blue-line stream shall include the following permanent protection  
494 measures.

495 (1) Construction fill that alters the conveyance and/or storage capacity of the  
496 regulated floodplain is prohibited in the flood fringe in an area bounded by the  
497 floodway line and a line defined as one-half the linear distance between the  
498 floodway line and the 100-year floodplain line. This requirement may be  
499 waived if a development occurs on a lake/river where regulated by Tennessee  
500 Valley Authority and a TVA flowage easement exists or if a drainage study  
501 prepared by a registered Professional Engineer licensed to practice in the state  
502 of Tennessee shows a rise of less than 0.1 feet on existing properties within 0.5  
503 miles (upstream or downstream) of the proposed development using a method  
504 widely accepted among engineering professionals.

505 (2) All blue-line stream banks shall be left in a stabilized condition upon  
506 completion of the project. No actively eroding bare or unstable vertical stream  
507 banks shall remain unless TDEC has determined there is no better alternative.  
508 Placement of riprap and other hard armor is only allowed when bioengineering  
509 alternatives are not technologically feasible.

510 (3) A naturally vegetated and pervious streamside buffer zone shall be created,  
511 maintained, and protected from clearing, grading, filling, paving, building, or  
512 other destruction of the naturally vegetated state. Acceptable uses of this buffer  
513 zone may include but are not limited to: yards, picnic areas, walking trails,  
514 greenways, landscaped areas, wildlife habitat, primitive areas, roadway and  
515 sidewalk stream crossings as close to perpendicular to the stream centerline as



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



516 practicable (bridge abutments, driveway/road culverts, etc.), or other similar  
517 uses approved by the Engineering Director. Specifically prohibited uses  
518 include but are not limited to: parking lots, dumpster storage, grease-bin  
519 storage, vehicle storage/maintenance, concentrated animal lots or kennels, or  
520 other uses known to contribute pollutants to waterways. The buffer zone will  
521 extend the length of the blue-line stream. The width of the buffer zone will be  
522 determined by the following criteria:

523 (A) Blue-line streams where a floodway profile has been computed, as  
524 part of the Flood Insurance Study, shall require a natural buffer  
525 measured fifty (50) feet from the center of the low flow channel or  
526 the width of the floodway, whichever is greater, unless otherwise  
527 specified by TDEC.

528 (B) Blue-line streams where a floodway profile has not been computed  
529 as part of the Flood Insurance Study but are named on the USGS  
530 7.5 minute quadrangle map shall require a natural buffer zone  
531 measured thirty-five (35) feet from the center of the low flow  
532 channel.

533 (C) Blue-line streams and tributaries where a floodway profile has not  
534 been computed as part of the Flood Insurance Study and are not  
535 named on the USGS 7.5 minute quadrangle map, shall require a  
536 natural buffer zone measured fifteen (15) feet from the center of  
537 the low flow channel.

538 (D) Blue-line streams that have been determined not to be Waters-of-  
539 the-State by the criteria adopted by the Tennessee Department of  
540 Environment and Conservation are excluded from this provision.

541 (E) The Director of Engineering & Public Works may approve  
542 mitigation for buffer zones to achieve a higher standard of water  
543 quality.

544 (F) Blue-line streams that are in culverts at the date of adoption of this  
545 ordinance do not require a buffer zone.

546 (G) Where design necessitates placement of culverts in a location that  
547 requires a buffer zone, and said culvert placement can be permitted  
548 by the Knox County Department of Engineering & Public Works  
549 as well as TDEC without a buffer zone, no buffer zone will be  
550 required

551  
552 (g) When existing or documented flooding problems are present, the Engineering Director  
553 has authority to condition the approval of a permit upon the compliance with additional  
554 requirements, including but not limited to detention, conveyance facilities, or other



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



555 stormwater management solutions required to reduce the adverse impact of the proposed  
556 development on other properties or on the subject development.

557

558

559 **Section 3.5-22. Site development design manuals.**

560

561 The Department of Engineering & Public Works is authorized to adopt additional policies,  
562 criteria, specifications, and standards, for the proper implementation of the requirements of this  
563 chapter in a Land Development Manual (LDM) and a Best Management Practices (BMP)  
564 Manual. The policy, criteria, and requirements of the City of Knoxville Land Development  
565 Manual dated February 2002, and the City of Knoxville Best Management Practices Manual,  
566 dated March 2001, shall be enforceable consistent with other provisions of this chapter.

567

568 **Section 3.5-23. Stormwater detention.**

569

570 (a) The requirement for stormwater detention ponds shall apply to the following:

571

(1) All road construction exceeding one-half (1/2) one (1) acre of impervious area;

572

(2) All commercial, industrial, educational, institutional and recreational  
573 developments of one (1) acre or more of disturbed area;

574

(3) Large single-family or duplex residential developments of five (5) acres or  
575 more of disturbed area or five (5) lots or more;

576

(4) Any site development which contains one-half (1/2) acre or more of additional  
577 impervious area.

578

(5) Any redevelopment that meets any of the four criteria above.

579

580 (b) For areas of redevelopment, if the downstream system (to the second existing road  
581 crossing or blue-line stream, not to exceed 500 feet unless otherwise specified by the  
582 Director of Engineering & Public Works) is examined and found to be adequate to carry  
583 the 2 and 10-year 24-hour storms, the requirement for detention for areas of  
584 redevelopment may be waived. However, if the examination finds inadequate  
585 conveyance for the 2 and 10-year 24-hour storms, the Engineering Director has authority  
586 to condition the approval of a permit upon compliance with additional requirements,  
587 including but not limited to detention, conveyance facilities, or other stormwater  
588 management solutions required to reduce the adverse impact of the proposed  
589 development on other properties or on the subject development. The engineer is charged  
590 with determining the predeveloped (before any site development had occurred)  
591 conditions, including the curve number. If the engineer cannot determine the  
592 predeveloped conditions, then a maximum predeveloped curve number of seventy (70)  
593 may be used to compute the predeveloped flow and satisfy the requirement. In areas of  
594 redevelopment, detention or retention is required for the entire developed site, not just the  
595 portion of the site being redeveloped. This does not exempt the developer from  
596 providing the first flush and/or water quality requirements.



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



- 597  
598 (c) If in the developer's judgment, stormwater detention is either unwarranted or impractical,  
599 hydrologic and hydraulic computations to support such a conclusion and demonstrate that  
600 stormwater runoff shall not be increased in peak rate for storm events identified in the  
601 design standards for detention ponds in this chapter shall be furnished to the Department  
602 of Engineering & Public Works for review. This does not exempt the developer from  
603 providing the first flush and/or water quality requirements.  
604  
605 (d) Where the development's stormwater discharges directly into a main stream, detention for  
606 peak flow attenuations is not required unless deemed necessary by the Department of  
607 Engineering & Public Works. This does not exempt the developer from providing the  
608 first flush and/or water quality requirements.  
609  
610 (e) When existing or documented flooding problems are present, the Engineering Director  
611 has authority to condition the approval of a permit upon the compliance with additional  
612 requirements, including but not limited to detention, conveyance facilities, or other  
613 stormwater management solutions required to reduce the adverse impact of the proposed  
614 development on other properties or on the subject development.  
615  
616 (f) Detention basins located in subdivisions must be located on two or more buildable lots or  
617 in a common area with a legally established Homeowners' Association with  
618 responsibility for maintenance and repair of the detention basin.  
619

620 **Section 3.5-24. Erosion and sediment control.**

621  
622 To comply with state, federal, and local regulations, erosion and sediment control shall be  
623 regulated by this article because of the following water quality impacts:

- 624 (a) Stormwater runoff can carry pollutants into receiving water bodies, thereby degrading  
625 water quality;
- 626 (b) The increase in nutrients in stormwater runoff such as phosphorus and nitrogen  
627 accelerates eutrophication of receiving waters;
- 628 (c) Construction requiring land clearing and the alteration of natural topography tend to  
629 increase erosion;
- 630 (d) Siltation of water bodies resulting from increased erosion decreases their capacity to hold  
631 and transport water, interferes with navigation, and harms flora and fauna;
- 632 (e) Substantial economic losses can result from these adverse impacts on community waters.  
633  
634

635 **Section 3.5-25. Objectives of erosion and sediment control.**

636 In order to protect, maintain and enhance the immediate and long-term health, safety and general  
637 welfare of the citizens of the county, this article has the following objectives:

- 638 (a) Control erosion and sedimentation to limit deposition in streams and other water bodies;



Knox County, Tennessee  
Department of Engineering & Public Works



- 639 (b) Facilitate the removal of pollutants in stormwater runoff to perpetuate the natural  
640 biological functions of streams.  
641  
642

643 **Section 3.5-26. Site development permit required before site development.**

644 No person shall:

- 645 (a) Grade, dump, alter natural or existing topography, move or place fill material, excavate,  
646 remove any vegetation not exempted by the tree protection ordinance, or begin any site  
647 development activities without first obtaining a site development permit from the  
648 Department of Engineering.
- 649 (b) Alter any natural or manmade drainage system so as to divert, constrict, increase or  
650 change in any manner the natural or existing flow of any stream, or natural or existing  
651 drainage of any area without obtaining a site development permit from the Department of  
652 Engineering.
- 653 (c) Commence site development and/or construction of any building or structure without  
654 obtaining a site development permit from the Department of Engineering.
- 655 (d) Clear any site by means that causes disturbance of soil without first obtaining a site  
656 development permit from the Department of Engineering.  
657  
658

659 **Section 3.5-27. Site development permit requirements.**

- 660 (a) A site development plan shall be required for any site development except when:  
661 (1) The developed area is used for gardening or agricultural purposes;  
662 (2) The proposed work does not, in the opinion of the Department of Engineering,  
663 affect the drainage on the site or the quality of stormwater runoff from the site.
- 664 (b) Before any residential lot(s) in a platted subdivision may be transferred, the engineer of  
665 record must sign and seal a letter stating that all supporting stormwater and street  
666 infrastructure and grading has been completed for the subject lot(s), or the development  
667 certification may be submitted to and approved by the Department of Engineering &  
668 Public Works. Failure to comply with this requirement may result in the revocation of  
669 the surety bond, cashiers check, or letter of credit and implementation of all available  
670 legal remedies. A site development plan shall contain the following:
- 671 (1) The name, address, and telephone number of all persons having a legal interest in  
672 the property;
- 673 (2) The tax map number, group, and parcel number of the property or properties  
674 affected;
- 675 (c) Additional information is required for site development plans based on the type of  
676 development.



**Knox County, Tennessee  
Department of Engineering & Public Works**



- 677 (1) Small Single Family Residential Development - requires a topographic map  
678 showing the proposed area of land disturbance, the layout of the structure(s),  
679 identification of all areas of depression, blue-line streams, easements, and  
680 stormwater system, and other information as required by the Engineering Director.
- 681 (2) Large Residential and Commercial Development - requires plans showing existing  
682 and proposed 2-foot contours as they relate to the roadway, parking lot, drainage  
683 facilities, cut and fill slopes, all stormwater pipe size, material and location,  
684 identification of all areas of depression, blue-line streams, easements, erosion and  
685 sediment control measures, detention pond data including size, location, slope of  
686 bottom, outlet, invert, top elevations, spillway size and elevation, and the detention  
687 easement and an adequately sized traversable access easement. Also, catch basin  
688 location, elevation, slope, swales, ditches, and their stabilization treatment.  
689 Building pad contours and building pad elevations are also required when existing  
690 elevations are altered by more than 4 feet. When this site development plan  
691 includes a street to be dedicated to the county, a complete set of roadway plans  
692 must be submitted including profiles, grades, and cross sections showing cross  
693 slope, limits of construction, clear zone, utility strip, greenway/pedestrian space,  
694 signage plan, and a street-lighting fixture type and any above ground fixed objects  
695 on the right-of-way. All Large Residential and Commercial Development Plans  
696 that are submitted to the Department of Engineering must meet the following  
697 minimum standards:
- 698 (A) Stamp and signature from appropriate design professional;
  - 699 (B) Legible (for micro-filming and reproducing)
  - 700 (C) Constructible plans;
  - 701 (D) All required hydraulic and hydrologic calculations with reasonable  
702 assumptions (including downstream calculations with descriptive  
703 numbers, time of concentration, pre- and post-development delineated  
704 watersheds, and the detention pond design sheet completed);
  - 705 (E) Pre- and post-developed contours;
  - 706 (F) Erosion and sediment control plan;
  - 707 (G) Required retaining wall calculations;
  - 708 (H) Owner's, and, if applicable, Lessee's name, address, and phone  
709 number;
  - 710 (I) Vicinity map;
  - 711 (J) City block number;
  - 712 (K) CLT number (including map, insert, group and parcel);
  - 713 (L) Certified address from the Metropolitan Planning Commission.



**Knox County, Tennessee  
Department of Engineering & Public Works**



714 Plans that do not meet these minimum standards will be rejected, and will not be  
715 reviewed further until submission standards are met.

716  
717

718 (3) Utilities Development -

719

720 (A) except as provided below in subsection;

721

722 (B) requires plans showing the following: the names and addresses of all  
723 property owners; the name, address and contact person of the utility; the  
724 name, address and contact person of the engineering firm; a vicinity  
725 map; a graphical scale; the stamp and signature of a registered  
726 Professional Engineer licensed to practice in the State of Tennessee;  
727 total project length in feet; all property lines; existing easements;  
728 existing and proposed contours; all water features; all topographic  
729 features such as sinkholes; appropriate delineations such as no fill,  
730 buffer, floodway and F zone; appropriate construction details and an  
731 effective erosion and sediment control plan with details adequate for  
732 installation and inspection that complies with the TDEC "Erosion and  
733 Sediment Control Handbook," Second Edition dated March 2002, and  
734 all subsequent updates thereto, or the City of Knoxville's Best  
735 Management Practices Manual (BMP), current as of the date of the  
736 submission of the plans.

737

738 (C) the site development permit requirements for any utility entity currently  
739 subject to a court order or decree shall be determined by the  
740 Department of Engineering.

741

742 (D) Plans shall be prepared and stamped by an engineer, landscape  
743 architect, or architect competent in civil and site design and licensed to  
744 practice in the state of Tennessee with the following conditions:

744

745 (1) Portions of the Site Development Plan that require hydraulic or  
746 hydrology calculations and design must be prepared and stamped  
747 by a Professional Engineer competent in civil and site design and  
748 licensed to practice in the state of Tennessee.

748

749 (2) All roads and Joint Permanent Easements that are required to be  
750 designed and built to Public Road Standards shall be designed and  
751 stamped by a Professional Engineer competent in civil and site  
752 design and licensed to practice in the state of Tennessee.

752

753 (E) Prior to the release of a bond, a Development Certification must be  
754 completed showing that all drainage structures or facilities, and  
755 detention basin volumes, size, slopes, locations, elevations, and



**Knox County, Tennessee  
Department of Engineering & Public Works**



- 755 hydraulic structures have been field verified, represent the as-built field  
756 conditions, and comply with the approved plans. Features such as  
757 roadway lines, grades, cross slopes, locations, contours, and elevations  
758 will be provided to verify approved plans as required by the Director of  
759 Engineering & Public Works. This certification must be stamped by  
760 the appropriate design professional required to stamp the original Site  
761 Development Permit as stated in Section 3.5-28(d)(3) as well as a  
762 Registered Land Surveyor licensed to practice in the State of  
763 Tennessee.
- 764 (F) When the Department of Engineering has determined the site  
765 development plan is approvable, it will send a letter authorizing the  
766 installation of the erosion and sediment control measures. When the  
767 erosion and sediment control plan has been implemented on site, the  
768 appropriate design professional required to stamp the erosion and  
769 sediment control portion of the site development permit will provide a  
770 letter to the Department of Engineering stating that he has inspected the  
771 site and the erosion control has been implemented as shown on the  
772 approved erosion and sediment control plan. This letter must be signed  
773 and sealed by the appropriate design professional. Once this letter is  
774 received by the Department of Engineering, the site development  
775 permit can be issued.
- 776 (G) The Zoning Inspector must approve all plans prior to the issuance of a  
777 site development permit. The Metropolitan Planning Commission must  
778 approve all plans in a planned zone and overlays prior to the issuance of  
779 a site development permit.
- 780 (H) A Registered Land Surveyor licensed to practice in the state of  
781 Tennessee shall prepare and submit a plat for all plans that propose  
782 stormwater facilities. The plat shall locate, establish, and define an  
783 easement around each facility and traversable access to it. The plat  
784 must be approved and recorded with the Knox County Register of  
785 Deeds before a building permit can be issued.
- 786 (I) When existing or documented flooding problems are present, the  
787 Engineering Director has authority to condition the approval of a permit  
788 upon the compliance with additional requirements, including but not  
789 limited to detention, conveyance facilities, or other stormwater  
790 management solutions required to reduce the adverse impact of the  
791 proposed development on other properties or on the subject  
792 development.
- 793 (J) Unless an erosion and sediment control plan has been previously  
794 approved, the following requirements apply:



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



- 795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835
- (1) Small Single Family Residential Development requires no erosion and sediment control plan except if the residential development, exclusive of agricultural, gardening, farming, and similar areas of activity, results in disturbance of more than 10,000 square feet or except as deemed necessary by the Engineering & Public Works Director. When a plan is deemed necessary, the erosion and sediment control must comply with the TDEC Erosion and Sediment Control Handbook, Second Edition, dated March 2002 and all subsequent updates, or the City of Knoxville's Best Management Practices (BMP) Manual, current as of the date of the submission of the plans, whichever is more restrictive.
  - (2) Large Residential and Commercial Development requires an erosion and sediment control plan that is stamped by a competent registered Professional Engineer, architect, or landscape architect licensed to practice in the State of Tennessee and complies with the TDEC Erosion and Sediment Control Handbook, Second Edition, dated March 2002 and all subsequent updates, or the City of Knoxville's Best Management Practices (BMP) Manual, current as of the date of the submission of the plans, whichever is more restrictive, unless otherwise specified by the Director of Engineering & Public Works.
  - (3) Portions of the erosion and sediment control plan that require hydrology or hydraulic calculations and design shall be prepared and stamped by a competent licensed Professional Engineer registered in the State of Tennessee.
- (K) A surety bond, cashier's check, or letter of credit must be provided as follows:
- (1) A Performance and Indemnity Agreement is required prior to the issuance of a site development permit for rough grading or site development when there is a potential for runoff to adversely impact city rights-of-way and other property, when sites drain into sinkholes, or when the site is used for a borrow pit. The Performance and Indemnity Agreement shall be guaranteed in the form of a cashier's check, a letter of credit, or a surety bond.
  - (2) A Performance and Indemnity Agreement is required for Large Residential Development when there is a potential for runoff to adversely impact city rights-of-way and other property, when sites drain into sinkholes, when the site is used for a borrow pit, a detention pond is required, or there is construction of a joint permanent easement or public road. The Performance and Indemnity Agreement shall be guaranteed in the form of a



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



- 836 cashier's check, a letter of credit, or a surety bond. The actual  
837 amount is based on a remediation and completion estimate as  
838 determined by the Department of Engineering, with a minimum  
839 amount of \$50,000.
- 840 (3) A Performance and Indemnity Agreement is required for  
841 Commercial Development when there is a potential for runoff to  
842 adversely impact county rights-of-way and other property, when  
843 sites drain into sinkholes, when the site is used for a borrow pit, a  
844 detention pond is required, or there is construction of a joint  
845 permanent easement or public road. The amount is based on the  
846 project cost estimate that includes roadway facilities, drainage  
847 facilities, and erosion and sediment control remediation. The  
848 Performance and Indemnity Agreement shall be guaranteed in the  
849 form of a cashier's check, a letter of credit, or a surety bond. The  
850 actual amount is based on a remediation and completion estimate  
851 as determined by the Department of Engineering, with a minimum  
852 amount of \$10,000.
- 853 (4) A surety bond, cashier's check, or letter of credit is not required for  
854 Small Single Family Residential Development except when  
855 deemed necessary by the Engineering Director based on site  
856 conditions and the adverse impact on downstream conditions or  
857 other properties.
- 858 (5) The Engineering Director may refuse brokers or financial  
859 institutions the right to provide a surety bond, letter of credit, etc.  
860 based on past performance, ratings of the financial institution, or  
861 other appropriate sources of reference information.  
862  
863

864 **Section 22.5-28. Temporary emergency exemption**

865 In extreme circumstances when a delay in construction may cause significant property damage or  
866 loss of life, the Engineering Director may grant a temporary exemption from a Site Development  
867 Permit. Specific instances may include a sinkhole opening up which threatens homes or personal  
868 safety, a failure of a storm system where the flooding could cause property damage or loss of  
869 life, etc. This exemption is limited to work specific to resolving the dangerous situation(s). Any  
870 approval for work granted under this emergency exemption must be issued in writing and  
871 approved by the Engineering Director. After the emergency has been resolved, a Site  
872 Development Permit must be obtained for the emergency work and any additional proposed  
873 work. This should be accomplished through the standard review process. This temporary  
874 emergency exemption does not provide immunity from any of the design criteria of this  
875 ordinance.  
876



Knox County, Tennessee  
Department of Engineering & Public Works



877

878 **Section 22.5-29. Reserved**

879

880

881 **Section 3.5-30. Violation of a site development permit.**

882 No person shall perform site development work that does not conform to an approved site  
883 development plan.

884 **Section 3.5-31. Design standards for detention and/or retention ponds.**

885 (a) The calculated peak flow rate of stormwater runoff resulting from a 1-year, 2-year, 5-  
886 year, 10-year, 25-year and 100-year return frequency 24-hour duration storm shall be no  
887 greater after site development of the site than that which would result from a 1-year, 2-  
888 year, 5-year, 10-year, 25-year and 100-year return frequency 24-hour duration storm on  
889 the same site prior to site development.

890 (b) Adequate attention must be given to safety and sanitation in the design of any detention  
891 facility. This includes, but is not limited to, a minimum of 2% slope in the bottom of all  
892 detention ponds, a minimum of 3:1 (H:V) side slopes or with traversable access to the  
893 pond's vegetated bottom and side slopes for maintenance, and a minimum of one (1) foot  
894 of freeboard from the highest water surface elevation for the largest required design  
895 storm to the top of the berm. An exception can be made to the minimum slope  
896 requirement in the bottom of the pond if the first flush requirement is not managed in the  
897 quantity detention pond and the pond invert is finished in concrete.

898 (c) The plans shall include sufficient design information to show that the facility will operate  
899 as required. This shall include the existing (or before site development) peak flow  
900 discharges, the after site development peak flow discharges, and/or volumes of  
901 stormwater runoff based on the proposed site development, as well as all necessary  
902 computations used to determine the reduced peak flow rates for the design storms. The  
903 capacity of the facility shall be sufficient to control the volume of stormwater runoff  
904 resulting from 1-year, 2-year, 5-year, 10-year, 25-year and 100-year frequency 24-hour  
905 duration storms within the peak rate of flow requirements stated in the subsection.

906 (d) Discharge from the stormwater detention pond shall be routed to a ditch, channel, or  
907 stormwater facility of adequate capacity. Calculations showing the capacity of the  
908 receiving stormwater facility and its capability to convey a 10-year frequency storm shall  
909 be provided. If the receiving stormwater facility is incapable of conveying a 10-year  
910 frequency storm, calculations showing the capacity of the receiving stormwater facility  
911 and its capability to convey a 2-year frequency storm shall also be provided. The above  
912 calculations will be routed to the closer of the second existing street crossing or blue-line  
913 stream, but not to exceed 500 feet unless otherwise specified by the Director of  
914 Engineering & Public Works. The Engineering Director has authority to condition the  
915 approval of a permit upon the compliance with additional requirements, including but not  
916 limited to correctly sizing and installing offsite conveyance facilities or other stormwater



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



917 management solutions required to reduce the adverse impact of the proposed  
918 development on other properties or the development.

919  
920

921 **Section 3.5-32. Requirements for developments draining to a sinkhole.**

922 (a) Site development on property that includes a sinkhole will require copies of the  
923 appropriate permits from the Tennessee Department of Environment and Conservation  
924 (TDEC) prior to site development approval. After review of the State permit, the  
925 Engineering Director may require additional information related to structural integrity  
926 and flood protection. If the proposed development does not require TDEC approval, a  
927 letter from TDEC shall be submitted prior to the issuing of a Site Development Permit,  
928 stating that a TDEC permit is not required.

929 (b) For site development or redevelopment projects requiring attenuation or retention of the  
930 1-year, 2-year, 5-year, 10-year, 25-year and a 100-year frequency 24-hour duration  
931 storms with sinkholes entirely on site, calculations shall be provided showing that 100-  
932 year 24-hour design storm will not flood any structures assuming plugged conditions (0  
933 cfs outflow) for the sinkhole. These calculations must include the entire contributing  
934 watershed for the sinkhole. An easement is required around the sinkhole to include an  
935 area that is a minimum of five (5) feet horizontally outside the highest closed contour.

936 (c) For site development or redevelopment projects requiring attenuation or retention of  
937 the 1-year, 2-year, 5-year, 10-year, 25-year and 100-year frequency 24-hour duration  
938 storms with sinkholes partially on site, calculations must be provided showing that there  
939 will not be a rise in water surface elevations between the 100-year predeveloped and the  
940 100-year postdeveloped 24-hour design storm assuming plugged conditions (0 cfs  
941 outflow) for the sinkhole. An easement is required at a minimum of five (5) feet  
942 horizontally outside the highest closed contour on the section of the sinkhole located on  
943 the developed property. A rise in the 100-year water surface elevation is allowable when  
944 no structures will be flooded and all parties with ownership of the sinkhole agree in  
945 writing to allow the rise. In this case, an easement is required around the sinkhole to  
946 include an area that is a minimum of five (5) feet horizontally outside the highest closed  
947 contour.

948 (d) Stormwater retention is required for site developments that meet the requirements for  
949 stormwater attenuation and are located in one of the following critical watersheds:

- 950 (1) Ten Mile Creek
- 951 (2) Sinking Creek
- 952 (3) Harrell Hills watershed (near Cranberry Dr., Clairmont Dr., and Gaines Rd.)
- 953 (4) All areas draining to a sinkhole
- 954 (5) Any area of known flooding where deemed necessary by the Engineering  
955 Director.



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



956 The retention pond shall be designed so that the overflow in the 1-year, 2-year, 5-year,  
957 10-year, 25-year and 100-year design storms must meet the predeveloped discharges in  
958 addition to retaining the difference in the predeveloped and postdeveloped 100-year  
959 design storm. In basins or sub-basins where there is a documented historical draw down  
960 time for the sinkhole or region being drained to, it may be acceptable for a detention pond  
961 to be used instead of retention. For detention to be approvable, the draw down time of  
962 the detention pond must be a minimum of one and a half times the draw down time for  
963 the region.

964 (e) When existing or documented flooding problems are present, the Engineering Director  
965 has authority to condition the approval of a permit upon the compliance with additional  
966 requirements, including but not limited to detention, conveyance facilities, or other  
967 stormwater management solutions required to reduce the adverse impact of the proposed  
968 development on other properties or on the subject development.  
969

970 **Section 3.5-33. Hydrologic and hydraulic computations.**

971 (a) All hydrologic and hydraulic computations utilized in the design of stormwater detention  
972 facilities must be prepared by a registered engineer proficient in the field of hydrology  
973 and hydraulics and licensed to practice engineering in the State of Tennessee.  
974

975 (b) The required hydrologic and hydraulic computations shall be in accordance with NRCS  
976 (formerly known as the SCS) unit hydrograph procedures using AMC II curve numbers  
977 and Type II rainfall distribution, or other criteria that the Engineering Director shall  
978 establish based on scientific and engineering information. All post developed conditions  
979 must be routed at appropriately small time intervals through the detention pond using  
980 either hand calculations or computer models that are widely accepted among engineering  
981 professionals. The BMP Manual contains accepted methods and procedures. Other  
982 methods may be approved by the Engineering Director in the design of curb inlets and  
983 small pipe systems when the final result is verified by a SCS method.  
984

985 **Section 3.5-34. Maintenance of stormwater facilities.**

986 (a) Property owners, Homeowners' Associations as owner of record, and Lessees are  
987 responsible for maintaining stormwater and/or water quality facilities located on their  
988 property. Prior to the issuance of a site development permit, the property owner shall  
989 execute a legal document entitled "Covenants for Permanent Maintenance of Stormwater  
990 Facilities", or the Lessee shall execute a legal document entitled "Covenants for  
991 Maintenance of Stormwater Facilities on Leased Property" ("the Covenants"). The  
992 property owner or the Lessee, as the case may be, shall record the Covenants in the  
993 Office of the Knox County Register of Deeds. The location of the facility, the recorded  
994 location of the Covenants document, and a note stating the property owner's or Lessee's  
995 responsibility shall be shown on a plat, or in the case of a Lessee, as an exhibit attached



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



- 996 to the Lessee's Covenants, that is also recorded in the Office of the Knox County  
997 Register of Deeds.
- 998 (b)The Covenants shall specify minimum maintenance requirements to be performed at  
999 necessary intervals by the property owner or Lessee, as the case may be.
- 1000 (c)In order to provide access to stormwater and/or water quality facilities by personnel,  
1001 vehicles and equipment, the property owner, Homeowners' Associations as owner of  
1002 record, or Lessee, as the case may be, will provide a traversable twenty (20) foot wide  
1003 access within an easement from a public street in strict accord with the Plan and any  
1004 conditions required by the Department of Engineering.
- 1005 (d)The Covenants shall grant the County permission to enter the property to inspect any  
1006 stormwater facility for proper functioning and maintenance. If the facility is not being  
1007 maintained as required, the County will notify the property owner, Homeowners'  
1008 Associations as owner of record, or Lessee, as the case may be, in writing. If property  
1009 owner, Homeowners' Associations as owner of record, or Lessee, as the case may be,  
1010 fails to repair or maintain the facility within the allotted time, the Engineering Director  
1011 may authorize the work to be performed by the County or others. In such cases, the  
1012 property owner or Lessee, as the case may be, shall reimburse the County for double its  
1013 direct and related expenses. If the property owner or Lessee, as the case may be, fails to  
1014 reimburse the County, the County is authorized to file a lien for said costs against the  
1015 property or the Lessee's leasehold interest, as the case may be, and to enforce the lien by  
1016 judicial foreclosure proceedings.
- 1017 (e) Sediment removal and disposal shall be performed in accordance with all local, state, and  
1018 federal laws. Guidelines for sediment removal and disposal are referenced in the City's  
1019 LDM. The Engineering & Public Works Director may stipulate additional guidelines if  
1020 deemed necessary for public safety.

1021  
1022

**Section 22.5-35. Acceptance of streets and stormwater systems within public rights-of- way.**

1024 No street or stormwater system shall be dedicated to the county for public use or maintained by  
1025 the county as a public street, until said street and stormwater facility have been accepted in  
1026 writing by the Engineering & Public Works Director. The Engineering & Public Works Director  
1027 shall only approve streets constructed according to the current version of "A Policy on  
1028 Geometric Design of Highways and Streets", published by the American Association of State  
1029 Highway and Transportation Officials, and designed by a registered Professional Engineer  
1030 licensed to practice in the State of Tennessee. The design speed for local streets in residential  
1031 subdivisions shall be a minimum of thirty (30) miles per hour, unless the Engineering Director  
1032 deems a different design speed appropriate. Additionally, stormwater systems and streets must  
1033 conform to the city standard specifications and the city construction standards.

1034  
1035  
1036

**Section 3.5-36. First flush requirements for detention ponds.**



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



- 1037 (a) The requirements of this article shall not apply to those developments built or approved  
1038 before the passage of this article.
- 1039 (b) All requirements of sections 3.5-20 through 3.5-35 shall apply to this article.
- 1040 (c) All stormwater detention ponds that are required under section 3.5-23 and which are  
1041 approved after the adoption of this article shall be built to improve first flush water  
1042 quality by using the best management practices outlined in this section. The standard  
1043 management method shall be to collect the first flush or the first 4,500 cubic feet,  
1044 whichever is greater, of stormwater runoff in a pond and release that runoff over a  
1045 minimum 24-hour and a maximum of a 72-hour period. The Engineering Director may  
1046 approve other methods of improving first flush water quality if valid documentation from  
1047 full-scale testing by an independent third party is provided indicating that a higher or  
1048 equal level of water quality will result from the alternate method.

1049  
1050  
1051 **Section 3.5-37. Technical requirements for Special Pollution Abatement Permits.**

1052 Technical requirements for the permit shall be based on the current Best Management Practices  
1053 Manual subject to the approval of the Department of Engineering.

- 1054 (a) Specific land uses are known to produce pollutants that are detrimental to water quality  
1055 and would not be corrected by the standard methods outlined in the preceding section. A  
1056 Special Pollution Abatement Permit is required to ensure that structural and management  
1057 best management practices are used to control water quality for these uses. Before the  
1058 approval of structural stormwater treatment devices, the Engineering Director may  
1059 require valid documentation from full-scale testing by an independent third party to  
1060 verify that the pollutants of concern will be properly controlled. A Special Pollution  
1061 Abatement Permit will be valid for a period of five (5) years, at which point it must be  
1062 renewed. At the time of renewal, any deficiency in the management method must be  
1063 corrected. Any development that occurs without a required permit shall be a violation of  
1064 this chapter of the code.
- 1065 (b) A Special Pollution Abatement Permit shall be required for the following land uses:
- 1066 (1) Vehicle, truck or equipment maintenance, fueling, washing or storage areas including  
1067 but not limited to: automotive dealerships, automotive repair shops, and car wash  
1068 facilities;
- 1069 (2) Any property containing more than 400 parking spaces, or 120,000 square feet of  
1070 impervious parking area;
- 1071 (3) Recycling and/or salvage yard facilities;
- 1072 (4) Restaurants, grocery stores, and other food service facilities;
- 1073 (5) Commercial facilities with outside animal housing areas including animal shelters,  
1074 fish hatcheries, kennels, livestock stables, veterinary clinics, or zoos;



**Knox County, Tennessee  
Department of Engineering & Public Works**



1075 (6) Other producers of pollutants identified by the Engineering Director by information  
1076 provided to or collected by him or his representatives, or reasonably deduced or  
1077 estimated by him or his representatives from engineering or scientific study.  
1078  
1079

1080 **Section 3.5-38. Additional permits required.**

- 1081 (a) Where a National Pollutant Discharge Elimination System (NPDES) permit has been  
1082 issued for NPDES regulated stormwater discharges from a facility, no local permit will  
1083 be required for those NPDES regulated stormwater discharges from the facility for which  
1084 such permit has been issued and remains in effect. For site development, both a TDEC  
1085 construction site NPDES permit and a Site Development Permit as required herein  
1086 (b) Additional permits may be required from various state and federal agencies before a site  
1087 development permit will be issued by Knox County.  
1088  
1089

1090 **Section 3.5-39. NPDES permits.**

- 1091 (a) Any person who holds an individual National Pollutant Discharge Elimination System  
1092 (NPDES) permit shall provide a copy of such permit to the Engineering Director no later  
1093 than sixty (60) calendar days after issuance or renewal of the permit. The permit holder  
1094 shall also provide copies of all discharge monitoring reports required by the permit for  
1095 any discharge to the stormwater system.  
1096 (b) Any person who holds an NPDES general permit and/or multi-sector permit (as distinct  
1097 and different from an individual permit) shall provide either a copy of such permit or the  
1098 permit number assigned to them by the Tennessee Department of Environment and  
1099 Conservation to the Engineering & Public Works Director no later than sixty (60)  
1100 calendar days after issuance of the permit.  
1101  
1102

1103 **Sections 3.5-40--3.5-49. Reserved.**  
1104  
1105  
1106

1107 **ARTICLE III. ILLICIT CONNECTIONS AND ILLEGAL DUMPING**  
1108

1109 **Section 3.5-50. Findings of fact.**

1110 The county commission finds that the uncontrolled discharge of pollutants to the stormwater  
1111 system has an adverse impact upon the water quality of the receiving waters.

- 1112 (a) The 1987 amendments to the Federal Water Pollution Control Act, commonly known as  
1113 the Clean Water Act, established the National Pollutant Discharge Elimination System  
1114 (NPDES) program, which requires permits for discharges from stormwater systems into



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



1115 waters of the United States. The Environmental Protection Agency has promulgated  
1116 regulations implementing the NPDES program.

1117 (b) The NPDES regulations for stormwater discharges require certain municipalities,  
1118 including Knox County, to:

1119 (1) Control through ordinance, permit, contract, order or similar means, the contribution  
1120 of pollutants to municipal stormwater systems by stormwater discharges associated  
1121 with industrial activity and the quality of stormwater discharged from sites of  
1122 industrial activity;

1123 (2) Prohibit through ordinance, order or similar means, illicit discharges to the  
1124 stormwater system;

1125 (3) Control through ordinance, order or similar means, discharges to the stormwater  
1126 system of spills, dumping or disposal of materials other than stormwater;

1127 (4) Require compliance with conditions in ordinances, permits, contracts or orders; and

1128 (5) Carry out all inspections, surveillance, and monitoring procedures necessary to  
1129 determine compliance and noncompliance with permit conditions, including the  
1130 prohibition of illicit discharges to the stormwater system.

1131

1132 **Section 3.5-51. Objectives.**

1133 This chapter is adopted as part of the county stormwater management program in order to  
1134 prevent certain non-stormwater discharges to, and improper disposal of substances in, the  
1135 stormwater system, as to reduce, to the maximum extent practicable, pollutants that may be  
1136 present in discharges from the stormwater system.

1137

1138

1139 **Section 3.5-52. Prohibitions.**

1140 (a) No person shall:

1141 (1) Connect, or allow to be connected, any sanitary sewer to the stormwater system,  
1142 including any sanitary sewer connected to the stormwater system as of the date of  
1143 adoption of this chapter.

1144 (2) Cause or allow an illicit discharge to the stormwater system, or any component  
1145 thereof, or onto driveways, sidewalks, parking lots, sinkholes, creek banks, or other  
1146 areas draining to the stormwater system. Illicit discharges include, but are not limited  
1147 to:

1148 (A) Sewage discharges or overflows, including Sanitary Sewer Overflows (SSOs);

1149 (B) Discharges of wash water resulting from the hosing or cleaning of gas stations,  
1150 auto repair garages, or other types of automotive services facilities;

1151 (C) Discharges resulting from the cleaning, repair, or maintenance of any type of  
1152 equipment, machinery, or facility including motor vehicles, cement-related  
1153 equipment, and port-a-potty servicing, etc.;



**Knox County, Tennessee  
Department of Engineering & Public Works**



- 1154 (D) Discharges of wash water from mobile operations such as mobile automobile  
1155 washing, steam cleaning, power washing, and carpet cleaning, etc;
- 1156 (E) Discharges of wash water from the cleaning or hosing of impervious surfaces in  
1157 industrial and commercial areas including parking lots, streets, sidewalks,  
1158 driveways, patios, plazas, work yards, and outdoor eating or drinking areas, etc.;
- 1159 (F) Discharges of runoff from material storage areas containing chemicals, fuels,  
1160 grease, oil, or other hazardous materials;
- 1161 (G) Discharges of pool or fountain water containing chlorine, biocides, or other  
1162 chemicals; discharges of pool or fountain filter backwash water;
- 1163 (H) Discharges of sediment, or construction-related wastes, etc.;
- 1164 (I) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant  
1165 kitchen mat and trash bin wash water, etc.).
- 1166
- 1167 (b) Subject to the provisions of subsection (c), the following discharges shall not be in  
1168 violation of this chapter:
- 1169 (1) Water line flushing;
- 1170 (2) Landscape irrigation;
- 1171 (3) Diverted stream flows or rising groundwater;
- 1172 (4) Infiltration of uncontaminated groundwater [as defined at 40CFR35.2005(20)] to  
1173 separate storm drains;
- 1174 (5) Pumping of uncontaminated groundwater;
- 1175 (6) Discharges from potable water sources, foundation drains, uncontaminated air  
1176 conditioning condensation, irrigation waters, springs, water from crawl space  
1177 pumps, or footing drains;
- 1178 (7) Lawn watering;
- 1179 (8) Individual noncommercial car washing on residential properties; or car washing of  
1180 less than two (2) consecutive days in duration for a charity, nonprofit fund raising,  
1181 or similar noncommercial purpose;
- 1182 (9) Flows from riparian habitats and wetlands;
- 1183 (10) Dechlorinated swimming pool discharges;
- 1184 (11) Incidental street wash water from street cleaning equipment designed for cleaning  
1185 paved surfaces and limiting waste discharges;
- 1186 (12) Street deicing for public safety;
- 1187 (13) Any activity authorized by a valid NPDES permit; and
- 1188 (14) Any flows resulting from firefighting.



**Knox County, Tennessee**  
**Department of Engineering & Public Works**



1189 (c) If the Engineering Director finds that any activity, including but not limited to any of the  
1190 activities listed in subsection (b) above, are found to cause or may cause sewage,  
1191 industrial wastes or other wastes to be discharged into the stormwater system, the  
1192 Engineering Director shall so notify the person performing such activities, and shall order  
1193 that such activities be stopped or conducted in such a manner as to avoid the discharge of  
1194 sewage, industrial wastes or other wastes into the stormwater system. The Engineering  
1195 Director may require a stormwater pollution prevention plan to insure that the activity  
1196 can be conducted without causing further discharge of pollution to the stormwater  
1197 system.  
1198

1199 **Section 3.5-53. Notification of spills and illicit discharges.**

1200 As soon as any person has knowledge of any illicit spills or discharges to the stormwater system  
1201 in violation of this chapter, such person shall immediately notify the Engineering Director by  
1202 telephone of this discharge. If such person is directly or indirectly responsible for such discharge  
1203 or responsible for the operation of the system or business, then such person shall also take  
1204 immediate action to ensure the containment and cleanup of such discharge and shall confirm  
1205 such telephone notification with a written report to the Engineering Director within three (3)  
1206 calendar days. At a minimum, the written report for any illicit discharge shall include:

- 1207 i. Date and time of the discharge
- 1208 ii. Location of the discharge
- 1209 iii. Material or substance discharged
- 1210 iv. Duration and rate of flow
- 1211 v. Total volume discharged
- 1212 vi. Total volume recovered
- 1213 vii. Cause or reason for the discharge
- 1214 viii. Remediation and containment action taken
- 1215 ix. Material Safety Data Sheets (MSDS) for the discharged material
- 1216 x. Action taken to prevent further discharges
- 1217 xi. Description of any environmental impact
- 1218

1219 **Section 3.5-54. Requirements for monitoring.**

1220 The Engineering Director may require any person engaging in any activity or owning any  
1221 property, building or facility (including but not limited to a site of industrial activity) to  
1222 undertake such reasonable monitoring of any discharge(s) to the stormwater system operated by  
1223 the county and to furnish periodic detailed reports of such discharges.  
1224

1225 **Sections 3.5-55--3.5-60. Reserved.**  
1226

---