

ORD-3618

1 AN ORDINANCE TO AMEND SECTIONS 1-
2 1, 1-3, 1-5, 1-6, 1-7, 1-13, 1-14, 1-15, 1-20,
3 1-23, 1-24, 1-25, 1-26, 1-30, 1-35, AND 1-37
4 APPENDIX D, STORMWATER
5 MANAGEMENT
6

7 SECTIONS AMENDED: Appendix D, Stormwater Management
8 Sections 1-1, 1-3, 1-5, 1-6, 1-7, 1-13, 1-14, 1-15, 1-20, 1-23, 1-24,
9 1-25, 1-26, 1-30, 1-35, and 1-37
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11 BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF VIRGINIA
12 BEACH, VIRGINIA:
13

14 That Appendix D, Stormwater Management Ordinance Sections 1-1, 1-3, 1-5, 1-
15 6, 1-7, 1-13, 1-14, 1-15, 1-20, 1-23, 1-24, 1-25, 1-26, 1-30, 1-35, and 1-37, of the Code
16 of the City of Virginia Beach, Virginia, are hereby amended to read as follows:
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18 **Sec. 1-1. - Purpose and authority.**
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- 20 A. The purpose of this Ordinance is to ensure the general health, safety, and welfare
21 of the citizens of the City of Virginia Beach and protect the quality and quantity of
22 state waters from the potential harm of unmanaged stormwater, including protection
23 from a land disturbing activity causing unreasonable degradation of properties,
24 water quality, stream channels, and other natural resources, and to establish
25 procedures whereby stormwater requirements related to water quality and quantity
26 shall be administered and enforced.
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- 28 B. This ordinance is adopted pursuant to Article 2.3 (§ 62.1-44.15:24 et seq.) of
29 Chapter 3.1 of Title 62.1 of the Code of Virginia, and in compliance with 9VAC25-
30 870-10 et seq. of the Virginia Stormwater Management Regulations, except as
31 amended by this ordinance.
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35 **Sec. 1-3. - Definitions.**
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37 In addition to the definitions set forth in 9VAC25-870-10 of the Virginia
38 Stormwater Management Regulations, as amended, which are expressly adopted and
39 incorporated herein by reference, the following words and terms used in this Ordinance
40 have the following meanings unless otherwise specified herein. Where definitions differ,
41 those incorporated herein shall have precedence.
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45 "Department" means the Department of Environmental Quality.

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47 "Depression storage" means the amount of rain that is retained on the surface in
48 micro-depressions, ditches, and other terrain irregularities where water is allowed to
49 collect and pond.

50
51 "Development" means land disturbance and the resulting landform associated
52 with the construction of residential, commercial, industrial, institutional, recreation,
53 transportation or utility facilities or structures or the clearing of land for non-agricultural
54 or non-silvicultural purposes.

55
56 "Drainage area" means a land area, water area, or both from which runoff flows
57 to a common point downstream point (proposed project or the site entry point, project or
58 site outfall, drainage structure, junction, node, upstream end of a culvert or storm drain,
59 upstream face of a waterway crossing, channel, ditch, swale, spillway, weir, point of
60 adequacy or point of analysis), as required.

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62 "Energy grade line (EGL)" means the line that represents the total energy of flow
63 at a given location. It is the sum of the elevation head, the pressure head, and the
64 velocity head.

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66 "Flooding" means a general or temporary condition of partial or complete
67 inundation of normally dry land areas from:

- 68
69 (a) The overflow of inland or tidal waters, or
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71 (b) The unusual and rapid accumulation or runoff of surface waters from any
72 source, or
73
74 (c) ~~Mudflows, which area proximately caused by flooding as defined in~~
75 ~~paragraph (1)(b) of this definition and are akin to a river of liquid and~~
76 ~~flowing mud on the surfaces of normally dry land areas, as when earth is~~
77 ~~carried by a current of water and deposited along the path of the current.~~
78
79 (d) The collapse or subsidence of land along the shore of a lake or other body
80 of water as a result of erosion or undermining caused by waves or currents
81 of water exceeding anticipated cyclical levels or suddenly caused by an
82 unusually high water level in a natural body of water, accompanied by a
83 severe storm, or by an unanticipated force of nature such as flash flood or
84 an abnormal tidal surge, some similarly unusual and unforeseeable event
85 that results in flooding as defined above.

86
87 "Floodplain" means any land area susceptible to being inundated by water from
88 any source.

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90 "General permit" means the state permit titled GENERAL PERMIT FOR
91 DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES found in
92 Chapter 880 (9VAC25-880-1 et seq.) of the Regulations authorizing a category of
93 discharges under the CWA and the Act within a geographical area of the
94 Commonwealth of Virginia.

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96 "Hydraulic grade line (HGL)" means a line coinciding with the level of flowing
97 water in an open channel. In a closed conduit flowing under pressure, the HGL is the
98 level to which water would rise in a vertical tube at any point along the pipe. It is equal
99 to the energy grade line elevation minus the velocity head, $V^2/2g$.

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103 "Localized Flooding" means smaller scale flooding that may occur outside of a
104 stormwater conveyance system. This may include high water, ponding, or standing
105 water from stormwater runoff, which is likely to cause property damage or unsafe
106 conditions.

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110 "Point of Adequacy" means a point in the downstream receiving stormwater
111 conveyance system where it has adequate capacity to convey the design storm
112 discharge under proposed conditions to a receiving water body, as determined by the
113 City of Virginia Beach Public Works Design Standards Manual and the latest City of
114 Virginia Beach amendments to the Virginia Department of Transportation Design
115 Manual.

116
117 "Point of discharge" means a location at which concentrated stormwater runoff is
118 released.

119
120 "Pollutant discharge" means the average amount of a particular pollutant
121 measured in pounds per year or other standard reportable unit as appropriate, delivered
122 by stormwater runoff.

123
124 "Pollution" means such alteration of a physical, chemical or biological properties
125 of any state waters as will or is likely to create a nuisance or render such waters (a)
126 harmful or detrimental or injurious to the public health, safety or welfare, or to the health
127 of animals, fish or aquatic life; (b) unsuitable with reasonable treatment for use as
128 present or possible future sources of public water supply; or (c) unsuitable for
129 recreational, commercial, industrial, agricultural, or other reasonable uses, provided that
130 (i) an alteration of the physical, chemical, or biological property of state waters, or a
131 discharge or deposit of sewage, industrial wastes or other wastes to state waters by any
132 owner which by itself is not sufficient to cause pollution, but which in combination with
133 such alteration of or discharge or deposit to state waters by other owners, is sufficient to
134 cause pollution; (ii) the discharge of untreated sewage by any owner into state waters;
135 and (iii) contributing to the contravention of standards of water quality duly established

136 by the State Water Control Board, are "pollution" for the terms and purposes of this
137 chapter.

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141 *"Qualified personnel"* means a person knowledgeable in the principles and
142 practices of erosion and sediment and stormwater management controls who
143 possesses the skills to assess conditions at the construction site for the operator that
144 could impact stormwater quality and quantity and to assess the effectiveness of any
145 sediment and erosion control measures or stormwater management facilities selected to
146 control the quality and quantity of stormwater discharges from the construction activity.
147 For VSMP authorities this requires the use of a person who holds a certificate of
148 competency from the State bBoard in the areas of project inspection for ESC and
149 project inspection for SWM or combined administrator for ESC and combined
150 administrator for SWM as defined in 9VAC25-850-10 or a combination of ESC and
151 SWM qualifications from these two areas.

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155 *"Small construction activity"* means

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157 1. Construction activities including clearing, grading, and excavating that
158 results in land disturbance of equal to or greater than one acre, and less
159 than five acres. Small construction activity also includes the disturbance of
160 less than one acre of total land area that is part of a larger common plan of
161 development of sale if the larger common plan will ultimately disturb equal
162 to or greater than one and less than five acres. Small construction activity
163 does not include routine maintenance that is performed to maintain the
164 original line and grade, hydraulic capacity, or original purpose of the facility.
165 The State bBoard may waive the otherwise applicable requirements in a
166 general permit for a stormwater discharge from construction activities that
167 disturb less than five acres where stormwater controls are not needed
168 based on a "total maximum daily load" (TMDL) that addresses the
169 pollutant(s) of concern or, for nonimpaired waters that do not require
170 TMDLs, an equivalent analysis that determines allocations for small
171 construction sites for the pollutant(s) of concern or that determines that such
172 allocations are not needed to protect water quality based on consideration
173 of existing in-stream concentrations, expected growth in pollutant
174 contributions from all sources, and a margin of safety. For the purpose of
175 this subdivision, the pollutant(s) of concern include sediment or a parameter
176 that addresses sediment (such as total suspended solids, turbidity or
177 siltation) and any other pollutant that has been identified as a cause of
178 impairment of any water body that will receive a discharge from the
179 construction activity. The operator must certify to the State bBoard that the
180 construction activity will take place and stormwater discharges will occur,
181 within the drainage area addressed by the TMDL or equivalent analysis.

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2. Any other construction activity designated by the either State ~~b~~Board or the EPA regional administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to surface waters.

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"*Stormwater Appeals Board*" is the appeal authority designated by City Council to hear appeals from any permit applicant or permittee, or person subject to Ordinance requirements, aggrieved by any action of the City taken in regard to the Ordinance without a formal hearing. The Stormwater Appeals Board shall be appointed by City Council and shall consist of six (6) members, one (1) from the Department of Planning, one (1) from the Department of Public Works, one (1) from the Department of Public Utilities and three (3) citizen members. The city attorney or his designee shall serve as legal counsel to the Stormwater Appeals Board.

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Sec. 1-5. - Submission and approval of plans.

- A. No VSMP authority permit shall be issued by the Administrator, until the following items have been submitted to and approved by the Administrator as prescribed herein:

1. A plan review package that includes a general permit registration statement, if required. Registration statements are not required for detached single-family home construction, within or outside of a common plan of development or sale; however ~~the~~ such construction must adhere to the requirements of the general permit;

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Sec. 1-6. - Stormwater management plan; content of plan.

- A. The Stormwater Management Plan, required in section 1-4 of this Ordinance, must apply the stormwater management technical criteria set forth in sections 1-10 through 1-19 and 1-22 through 1-27 of this Ordinance to the entire site or common plan of development or sale where applicable, consider all sources of surface runoff and all sources of surface and groundwater flows converted to surface runoff. Individual lots in new residential, commercial or industrial developments shall not be considered separate land-disturbing activities. Approved stormwater management plans for residential, commercial or industrial subdivisions govern the individual parcels within that plan throughout the development life of the lots even with subsequent owners.

228 The Stormwater Management Plan shall include the following information:

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- 232 8. A map or maps of the site that depicts the topography of the site and includes:
- 233
- 234 i. All contributing drainage areas;
- 235
- 236 ii. Existing streams, ponds, culverts, ditches, wetlands, other water bodies,
- 237 and floodplains;
- 238
- 239 iii. Soil types, forest cover, and other vegetative areas;
- 240
- 241 iv. Current land use including existing structures, roads, and locations of
- 242 known utilities and easements;
- 243
- 244 v. Sufficient information on adjoining parcels upstream to the watershed limits
- 245 and adjoining parcels downstream contributing to the point of adequacy, to
- 246 assess the impacts of stormwater from the site on these parcels;
- 247
- 248 vi. The limits of clearing and grading, and the proposed drainage patterns on
- 249 the site;
- 250
- 251 vii. Proposed buildings, roads, parking areas, utilities, and stormwater
- 252 management facilities;
- 253
- 254 viii. Proposed land use with tabulation of the percentage of surface area to be
- 255 adapted to various uses, including but not limited to planned locations of
- 256 utilities, roads, and easements;
- 257
- 258 ix. All Chesapeake Bay Preservation Area designations of Resource
- 259 Protection Areas, including variable width buffers;
- 260
- 261 x. All Southern Rivers Watershed buffers and nontidal wetlands, pursuant to
- 262 Appendix G of the Virginia Beach City Code; and
- 263
- 264 xi. Any other information reasonably necessary for an evaluation of the
- 265 development activity.

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- 267
- 268 E. A maintenance agreement and adequate easements, shall be executed and
- 269 recorded to ensure responsibility for the maintenance of any stormwater
- 270 management facilities constructed under the requirements of this ordinance, unless
- 271 exempted from this requirement under section 1-28, and to ensure appropriate
- 272 access to such facilities for maintenance, inspection and corrective action.

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Sec. 1-7. - Review of stormwater management plans.

A. The Administrator shall review stormwater management plans and shall approve or disapprove a stormwater management plan according to the following:

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5. If a plan meeting all requirements of this Ordinance is submitted and no action is taken within the time provided above in subdivision 2. ~~for review~~, the plan shall be deemed approved.

6. All written correspondence shall be by email or facsimile unless requested otherwise in writing by the applicant.

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C. The Administrator shall require the submission of a construction record drawing for permanent stormwater management facilities and stormwater conveyance systems. The Administrator may elect not to require construction record drawings for stormwater management facilities and stormwater conveyance systems for which recorded maintenance agreements are not required pursuant to section 1-28. Prior to the release of the surety and final approval of the facility by the City a construction record drawing for permanent stormwater management facilities and stormwater conveyance systems shall be submitted, inspected and approved by the Administrator. The construction record drawing shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities and stormwater conveyance systems have been constructed in accordance with the approved plan.

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Sec. 1-13. - Water quantity.

A. Channel protection and flood protection shall be addressed in accordance with the minimum standards set out in this section.

B. Channel protection. Concentrated stormwater flow shall be released into a stormwater conveyance system and shall meet the criteria in subdivision 1, 2, or 3 of this subsection, where applicable, from the point of discharge ~~to a point~~ to the limits of analysis defined in subdivision 4 of this subsection.

....

319 3. Natural stormwater conveyance systems. When stormwater from a
320 development is discharged to a natural stormwater conveyance system, the
321 maximum peak flow rate from the one-year 24-hour storm following the land-
322 disturbing activity shall be calculated either:

323
324 a. In accordance with the following methodology:

325
326
$$Q_{\text{Developed}} \leq \text{I.F.} * (Q_{\text{Pre-Developed}} * RV_{\text{Pre-Developed}}) / RV_{\text{Developed}}$$

327
328 Under no condition shall $Q_{\text{Developed}}$ be greater than $Q_{\text{Pre-Developed}}$ nor shall $Q_{\text{Developed}}$
329 be required to be less than that calculated in the equation $(Q_{\text{Forest}} * RV_{\text{Forest}}) / RV_{\text{Developed}}$; where

330
331
332 I.F. (Improvement Factor) equals 0.8 for sites > 1 acre or 0.9 for sites ≤ 1
333 acre.

334
335 $Q_{\text{Developed}}$ = The allowable peak flow rate of runoff from the developed site.

336
337 $RV_{\text{Developed}}$ = The volume of runoff from the site in the developed condition.

338
339 $Q_{\text{Pre-Developed}}$ = The peak flow rate of runoff from the site in the pre-
340 developed condition.

341
342 $RV_{\text{Pre-Developed}}$ = The volume of runoff from the site in pre-developed
343 condition.

344
345 Q_{Forest} = The peak flow rate of runoff from the site in a forested condition.

346
347 RV_{Forest} = the volume of runoff from the site in a forested condition; or

348
349 b. In accordance with another methodology that is demonstrated by the City to
350 achieve equivalent results and is approved by the State Water Control
351 Board.

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353 4. Limits of analysis. ~~Unless subdivision 3 of this subsection is utilized to show~~
354 ~~compliance with the channel protection criteria, Stormwater conveyance~~
355 ~~systems shall be analyzed for compliance with channel protection criteria to a~~
356 ~~point where either the point of adequacy as determined in Subsection C;~~

357
358 a. ~~Based on land area, the site's contributing drainage area is less than or~~
359 ~~equal to 1.0% of the total watershed area; or~~

360
361 b. ~~Based on peak flow rate, the site's peak flow rate from the one-year 24-hour~~
362 ~~storm is less than or equal to 1.0% of the existing peak flow rate from the~~
363 ~~one-year 24-hour storm prior to the implementation of any stormwater~~
364 ~~quantity control measures.~~

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C. Flood protection. Concentrated stormwater flow shall be released into a stormwater conveyance system and shall meet one of the following criteria as demonstrated by use of acceptable hydrologic and hydraulic methodologies. Adequacy of the downstream system must be demonstrated for all the following:

~~1. Concentrated stormwater flow to stormwater conveyance systems that currently do not experience localized flooding during the 10-year 24-hour storm event: The point of discharge releases stormwater into a stormwater conveyance system that, following the land-disturbing activity, confines the postdevelopment peak flow rate from the 10-year 24-hour storm event within the stormwater conveyance system. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the VSMP authority.~~

~~2. Concentrated stormwater flow to stormwater conveyance systems that currently experience localized flooding during the 10-year 24-hour storm event. The point of discharge either:~~

~~a. Confines the postdevelopment peak flow rate from the 10-year 24-hour storm event within the stormwater conveyance system to avoid the localized flooding. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the VSMP authority; or~~

~~b. Releases a postdevelopment peak flow rate for the 10-year 24-hour storm event that is less than the predevelopment peak flow rate from the 10-year 24-hour storm event. Downstream stormwater conveyance systems do not require any additional analysis to show compliance with flood protection criteria if this option is utilized.~~

1. The downstream system must adequately convey the design storm to the point of adequacy, using freeboard heights and headwater depths stipulated in the City of Virginia Beach Public Works Design Standards Manual and the referenced documents.

2. The post-development design year Hydraulic Grade Line shall not increase over the predevelopment design year Hydraulic Grade Line in all receiving channels and water bodies and upstream facilities.

~~3. Limits of analysis. Unless subdivision 2.b. of this subsection is utilized to comply with the flood protection criteria, sStormwater conveyance systems shall be analyzed from for compliance with flood protection criteria to a the point of adequacy. where:~~

- 409 a. ~~The site's contributing drainage area is less than or equal to 1.0% of the~~
410 ~~total watershed area draining to a point of analysis in the downstream~~
411 ~~stormwater conveyance system;~~
412
413 b. ~~Based on peak flow rate, the site's peak flow rate from the 10-year 24-hour~~
414 ~~storm event is less than or equal to 1.0% of the existing peak flow rate from~~
415 ~~the 10-year 24-hour storm event prior to the implementation of any~~
416 ~~stormwater quantity control measures; or~~
417
418 c. ~~The stormwater conveyance system enters a mapped floodplain or other~~
419 ~~flood-prone area, adopted by ordinance, of any locality.~~
420
421 D. Increased volumes of sheet flow resulting from pervious or disconnected impervious
422 areas, or from physical spreading of concentrated flow through level spreaders,
423 must be identified and evaluated for potential impacts on down-gradient properties
424 or resources. Increased volumes of sheet flow that will cause or contribute to
425 erosion, sedimentation, or flooding of down gradient properties or resources shall
426 be diverted to a stormwater management facility or a stormwater conveyance
427 system that conveys the runoff without causing down-gradient erosion,
428 sedimentation, or flooding. ~~If all runoff from the site is sheet flow and the conditions~~
429 ~~of this subsection are met, no further water quantity controls are required.~~
430
431 E. For purposes of computing predevelopment runoff, all pervious lands on the site
432 shall be assumed to be in good hydrologic condition in accordance with the U.S.
433 Department of Agriculture's Natural Resources Conservation Service (NRCS)
434 standards, regardless of conditions existing at the time of computation. Onsite areas
435 which provide depression storage must be accounted for in all calculations.
436 Predevelopment runoff calculations utilizing other hydrologic conditions may be
437 utilized provided that it is demonstrated to and approved by the VSMP authority that
438 actual site conditions warrant such considerations.
439
440 F. Predevelopment and postdevelopment runoff characteristics and site hydrology
441 shall be verified by site inspections, topographic surveys, available soil mapping or
442 studies, and calculations consistent with good engineering practices. Guidance
443 provided in the Virginia Stormwater Management Handbook and on the Virginia
444 Stormwater BMP Clearinghouse website shall be considered appropriate practices.
445
446 G. The entire drainage area must be considered when determining the design storm
447 and hydrologic methods. This includes both onsite and offsite contributing drainage
448 areas. For drainage areas less than 300 acres, a 10-year, 24-hour design storm
449 event for capacity design shall be used; for drainage areas equal to or greater than
450 300 acres, but less than 500 acres, a 25-year, 24-hour design storm event shall be
451 used; for drainage areas equal to or greater than 500 acres, a 50-year, 24-hour
452 design storm event shall be used.
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Sec. 1-14. - Offsite compliance options.

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- C. Notwithstanding subsections A. and B. of this section, offsite options shall not be allowed:
 - 1. Unless the selected offsite option achieves the necessary nutrient reductions prior to the commencement of the operator's land-disturbing activity. In the case of a phased project, the operator may acquire or achieve offsite nutrient reductions prior to the commencement of each phase of land-disturbing activity in an amount sufficient for each phase.
 - 2. In contravention of local water quality-based limitations at the point of discharge that are (i) consistent with the determinations made pursuant to subsection B of § 62.1-44.19:7 of the Code of Virginia, (ii) contained in a municipal separate storm sewer system (MS4) program plan accepted by DEQ, or (iii) as otherwise may be established or approved by the State Board.

Sec. 1-15. - Design storms and hydrologic methods.

- A. Unless otherwise specified, the prescribed design storms are 120% of the one-year, two-year, ~~and 10-year~~, 25-year, 50-year and 100-year 24-hour storms using the site-specific rainfall precipitation frequency data recommended by the U.S. National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 2 Version 3.0. Partial duration time series, as adjusted by the City of Virginia Beach Public Works Design Standards Manual, shall be used for the precipitation data.
- B. Unless otherwise specified, all hydrologic analyses shall be based on the existing watershed characteristics and how the ultimate development condition of the subject project will be addressed.
- C. ~~The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) synthetic 24-hour rainfall distribution and models, including, but not limited to TR-55 and TR-20; hydrologic and hydraulic methods developed by the U.S. Army Corps of Engineers; or other standard hydrologic and hydraulic methods, shall be used to conduct the analyses described in this part.~~ Except as allowed in D. below, all analysis shall use dynamic modeling. Predeveloped vs. post-developed runoff comparisons shall be performed using the same method of analysis.
- D. ~~For drainage areas of two hundred (200) acres or less, the City may allow for the use of the Rational Method for evaluating peak discharges. When total land disturbance is less than 20,000 square feet or the proposed impervious area is at least 10% less than the existing impervious area, stormwater design may use any computer design program that utilizes the 24-hour design storm hyetograph with~~

501 increased precipitation and the static tailwater provided by the City of Virginia
502 Beach. Analysis of upstream and downstream impacts is not required under these
503 conditions.

504
505 ~~E. For drainage areas of two hundred (200) (2) acres or less, the city may allow for the~~
506 ~~use of the Modified Rational Method and NRCS methods for evaluating volumetric~~
507 ~~flows to stormwater conveyances.~~

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511 **Sec. 1-20. - Grandfather provisions.**

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515 C. Land-disturbing activities grandfathered under ~~this~~ Subsections A and B shall
516 remain subject to the criteria of sections 1-22 through 1-27 for one additional state
517 permit cycle. After such time, portions of the project not under construction shall
518 become subject to the technical requirements of sections 1-10 through 1-19 and
519 any new technical criteria adopted by the State bBoard.

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521 D. In cases where governmental bonding or public debt financing has been issued for
522 a project prior to July 1, 2012, such project shall become subject to the technical
523 requirements of sections 1-22 through 1-27 of this Ordinance.

524
525 E. Land-disturbing activities that obtain an initial state permit or commence land
526 disturbance prior to July 1, 2014 shall be conducted in accordance with the
527 technical criteria found in sections 1-22 through 1-27 of this Ordinance. Such
528 projects shall remain subject to these technical criteria for two additional state
529 permit cycles. After such time, portions of the project not under construction shall
530 become subject to any new technical criteria adopted by the State bBoard.

531
532 F. Land-disturbing activities that obtain an initial state permit on or after July 1, 2014
533 shall be conducted in accordance with the technical criteria found in sections 1-10
534 through 1-19 of this Ordinance, except as provided for above. Such projects shall
535 remain subject to these technical criteria for two additional state permit cycles. After
536 such time, portions of the project not under construction shall become subject to
537 any new technical criteria adopted by the State bBoard.

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541 **Sec. 1-23. - General.**

542
543 A. Determination of flooding and channel erosion impacts to receiving streams due to
544 land-disturbing activities shall be measured at each point of discharge from the land
545 disturbance and such determination shall include any runoff from the balance of the
546 watershed that also contributes to that point of discharge.

547
548 B. The specified design storms shall be defined as either a 24-hour storm using the
549 NOAA Type "C" 24, hour, 25-year rainfall distribution recommended by the U.S.
550 Department of Agriculture's Natural Resources Conservation Service (NRCS) when
551 using NRCS methods or as the storm of critical duration that produces the greatest
552 required storage volume at the site. ~~when using a design method such as the~~
553 ~~Modified Rational Method~~

554

555 **Sec. 1-24. - Water quality.**

557
558 A. Compliance with the water quality criteria may be achieved by applying the
559 performance-based criteria or the technology-based criteria to either the site or a
560 planning area.

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563 **Sec. 1-25. - Stream channel erosion.**

564
565 A. Properties and receiving waterways, both upstream and downstream of any land-
566 disturbing activity shall be protected from erosion and damage due to changes in
567 runoff rate of flow and hydrologic characteristics, including, but not limited to,
568 changes in volume, velocity, frequency, duration, and peak flow rate of stormwater
569 runoff in accordance with the minimum design standards set out in this section.

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571 B. The VSMP authority shall require compliance with subdivision 19 of 9VAC25-840-
572 40 of the Erosion and Sediment Control Regulations, promulgated pursuant to the
573 Erosion and Sediment Control Law.

574
575 C. The VSMP authority may determine that some watersheds or receiving stream
576 systems require enhanced criteria in order to address the increased frequency of
577 bankfull flow conditions (top of bank) brought on by land-disturbing activities or
578 where more stringent requirements are necessary to address total maximum daily
579 load requirements or to protect exceptional waters. Therefore, in lieu of the
580 reduction of the two-year postdeveloped peak rate of runoff as required in
581 subsection B. of this section, the land development project being considered shall
582 provide 24-hour extended detention of the runoff generated by the one-year, 24-
583 hour duration storm, as defined in this ordinance.

584

585
586 **Sec. 1-26. - Flooding.**

587
588 A. Upstream, Ddownstream and adjacent properties and waterways shall be protected
589 from damages from localized flooding due to changes in runoff rate of flow and
590 hydrologic characteristics, including, but not limited to, changes in volume, velocity,
591
592

593 frequency, duration, and peak flow rate of stormwater runoff in accordance with the
594 minimum design standards set out in this section.

595
596 B. The 10-year postdeveloped peak rate of runoff from the development site shall not
597 exceed the 10-year predeveloped peak rate of runoff nor provide any increase in
598 HGL upstream to the watershed limits and adjoining parcels downstream
599 contributing to the point of adequacy.

600
601 C. In lieu of subsection B. of this section, the City may, by ordinance in accordance
602 with § 62.1-44.15:33 of the Code of Virginia, adopt alternate design criteria based
603 upon geographic, land use, topographic, geologic factors, or other downstream
604 conveyance factors as appropriate.

605
606 D. Linear development projects shall not be required to control postdeveloped
607 stormwater runoff for flooding, except in accordance with a watershed or regional
608 stormwater management plan.

609
610

611
612 **Sec. 1-30. - Hearings.**

613
614

615
616 B. The hearings held under this Section shall be conducted by the Stormwater Appeals
617 Board at any time and place authorized by the Stormwater Appeals Board.

618
619

620
621 **Sec. 1-35. - ~~Public w~~Works specifications and Design sStandards Manual.**

622
623 The Public Works ~~Specifications and~~ Design Standards Manual, including all future
624 amendments thereto is hereby adopted and incorporated by reference into this
625 ordinance. ~~However, whenever the Public Works Specifications and Standards and the~~
626 ~~State regulations, including the BMP Clearinghouse conflict, the State regulations and~~
627 ~~the BMP Clearinghouse shall control, unless the more stringent provision of the~~
628 ~~Specification and Standards was applicable prior to January 1, 2013.~~

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631
632 **Sec. 1-37. - Effective date.**

633
634 This ordinance shall become effective on July 1, 2014 _____.

635

Adopted by the Council of the City of Virginia Beach, Virginia on the 16th day of
June, 2020.