

Town of Nags Head
Recommended Standard Details Manual

Residential Stormwater Management Application Form



Released Date: January 13, 2019

Residential Stormwater Management Guidance

Step 1 - Existing Conditions

- A. A survey of the site, including topography. The survey shall be prepared by a licensed surveyor and shall include the minimum required elevation information as referenced in the Town of Nags Head Recommended Standard Details Manual. The survey must also show the location of drainage ditches within the area surveyed, and the location of wetlands, and ponds.
- B. Approximate elevation of seasonal high water table. "seasonal high wetness condition" as indicated by the Dare County Health Department site evaluation is acceptable for determining vertical separation compliance of SCMs on single family and duplex residential projects. Also, include any fill requirements provided with the Dare County Health septic approval.

Step 2 – Proposed Alterations

- A. Change(s) in topography. The proposed final elevations shall be shown in a manner that can be distinguished from the existing elevations.
- B. Identification and quantification of the area(s) that will be covered with built upon area and a description of the surfacing material(s).
- C. The proposed area to be preserved and/or planted with vegetation as well as any designated open space. This shall include the location of any trees and/or open space that will be utilized to reduce the built-upon area calculations.
- D. Identification and quantification any other site improvements such as pools, wood slatted decks, and permeable pavement.
- E. The size and location of any buildings or other structures, including bulkheads or retaining walls.
- F. Erosion and Sediment Control Measures. A description of the measures that will be put in place for the control of erosion and sedimentation shall be provided.
- G. Stormwater Runoff Features. All SCMs intended to receive stormwater runoff from the proposed built-upon areas on the site shall be described and their location identified on the survey.
- H. Other Information. The applicant shall provide other information which the town or its designated agent deems necessary for an evaluation of the development proposal for compliance with this chapter.

Step 3 – Built Upon Area Calculations

- A. Complete Worksheet A
 - a. Insert individual built upon area with applicable existing and proposed site improvements. Add the individual built upon areas to calculate the subtotal.
 - b. Calculate the maximum permissible open space/ tree credit (30% of built upon area subtotal). Input open space to be preserved, (minimum individual open space area(s) is 250 sf). Input open space area subtotal.
 - c. Input the number of trees to be preserved (6" min caliper. @ 100 sf per tree). Input the number of trees to be planted (2" min. caliper, 6' in height). Add results to calculate subtotal.
 - d. If three or more stormwater control measures are proposed, a 15% reduction of the built upon area can be applied.
 - e. Subtract the individual credits from the built upon area to acquire the adjusted built upon area.
 - f. The required stormwater volume is 15 cf for 100 sf of adjusted built upon area.

BUILT UPON AREA AND OPEN SPACE/TREE CREDIT CALCULATIONS - WORKSHEET A

BUILT UPON AREA CALCULATIONS:

STRUCTURE OR DWELLING FOOTPRINT	=	<input type="text"/>	SF
COVERED DECKS AND STAIRS	=	<input type="text"/>	SF
DETACHED GARAGE	=	<input type="text"/>	SF
DETACHED ACCESSORY STRUCTURE	=	<input type="text"/>	SF
DETACHED EQUIPMENT STAND(S)	=	<input type="text"/>	SF <i>Excluded BUA</i>
UNCOVERED DUNE WALKWAY, DECK(S), STAIRWAYS (CONSTRUCTED W/SLATTED DECKING OVER GREEN SPACE)	=	<input type="text"/>	SF <i>Excluded BUA</i>
SWIMMING POOL SURFACE AREA	=	<input type="text"/>	SF <i>Excluded BUA</i>
CONCRETE DECK(S), PATIO(S), WALKWAY(S)	=	<input type="text"/>	SF
PERMEABLE DECK(S), PATIO(S), WALKWAY(S)	=	<input type="text"/>	SF <i>Excluded BUA</i>
CONCRETE DRIVE(S) AND PARKING	=	<input type="text"/>	SF
PERMEABLE DRIVE(S) & PARKING	=	<input type="text"/>	SF <i>Excluded BUA</i>
EXISTING BUILT UPON AREA	=	<input type="text"/>	SF
BUILT UPON AREA SUBTOTAL	=	<input type="text"/>	SF

OPEN SPACE AREA CALCULATIONS

MAXIMUM PERMISSIBLE OPEN SPACE/TREE CREDIT REDUCTION	=	<input type="text"/>	SF <i>Max 30% BUA</i>
OPEN SPACE AREA TO BE PRESERVED	=	<input type="text"/>	SF
IS TOTAL OPEN SPACE AREA GREATER THAN 1,000 SF	=	<input type="text"/>	<i>(Yes or No)</i>
ARE INDIVIDUAL POCKETS OF OPEN SPACE GREATER THAN 250 SF	=	<input type="text"/>	<i>(Yes or No)</i>
OPEN SPACE AREA REDUCTION SUBTOTAL	=	<input type="text"/>	SF

TREE PRESERVATION AREA CALCULATIONS

NUMBER OF EXISTING TREES TO BE PRESERVED (6" OR GREATER IN CALIPER)	=	<input type="text"/>	
EXISTING TREE BUILT UPON AREA REDUCTION (100 SF PER EX. TREE PRESERVED)	=	<input type="text"/>	SF
NUMBER OF PROPOSED TREES (2" OR GREATER IN CALIPER, MIN. 6' TALL)	=	<input type="text"/>	
PROPOSED TREE BUILT UPON AREA REDUCTION (50 SF PER PRO. TREE PLANTED)	=	<input type="text"/>	SF
TREE CREDIT AREA REDUCTION SUBTOTAL	=	<input type="text"/>	SF

IS OPEN SPACE + TREE CREDIT BUA SUBTOTAL LESS THAN OR EQUAL TO
MAXIMUM PERMISSIBLE OPEN SPACE/TREE CREDIT REDUCTION = *(Yes or No)*

STORMWATER CONTROL MEASURE CREDIT

ARE THREE OR MORE STORMWATER CONTROL MEASURES BEING PROPOSED	=	<input type="text"/>	<i>(Yes or No)</i>
STORMWATER CONTROL MEASURE REDUCTION SUBTOTAL	=	<input type="text"/>	SF

ADJUSTED BUILT UPON AREA TOTAL	=	<input type="text"/>	SF
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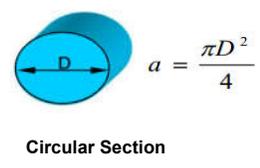
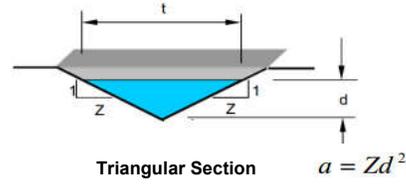
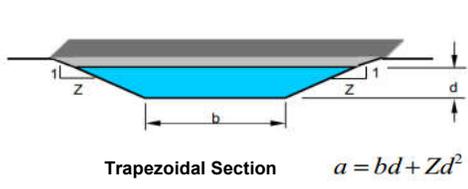
REQUIRED STORMWATER VOLUME CALCULATION

REQUIRED STORMWATER VOLUME (15 CF PER EVERY 100 SF OF ADJUSTED BUILT UPON AREA)	=	<input type="text"/>	CF
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RESIDENTIAL STORMWATER CONTROL MEASURE CALCULATION - WORKSHEET B

Step 4 - Stormwater Measure Calculations: Select the proposed measure(s) and size according to the volume of stormwater that needs to be managed. Shaded boxes represent the necessary information to complete volume calculations. Other measures(s) may be utilized if deemed appropriate and provided the calculations show the required volume has been met. The individual volume(s) shall be added to calculate the total on-site volume provided to determine whether the minimum volume requirement has been met. Alternative prefabricated measures can be used in lieu of the measures shown below if the technical specifications with associative flow area are provided to the Town as part of this application.

Proposed Measure	Length(L) (feet)	Width(b) (feet)	Depth(d) (feet)	Left Side Slope(Zl) (feet)	Right Side Slope(Zr) (feet)	Multiplier (Void Ratio)	Volume (cubic feet)
Triangular Veg. Swale	<input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	1.0	= <input type="text"/>
Trapezoidal Veg. Swale	<input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	1.0	= <input type="text"/>
		<i>Insert bottom width distance</i>					
Infiltration Basin	<input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	1.0	= <input type="text"/>
		<i>Insert bottom width distance</i>					
French Drain	<input type="text"/>	x <input type="text"/>	x <input type="text"/>		x <input type="text"/>	0.4	= <input type="text"/>
Dry Well	<input type="text"/>	x <input type="text"/>	x <input type="text"/>		x <input type="text"/>	0.4	= <input type="text"/>
Rain Garden	<input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	x <input type="text"/>	1.0	= <input type="text"/>
Pipe or Cylinder	Length		Diameter				
	<input type="text"/>		<input type="text"/>		x	1.0	= <input type="text"/>
Rain Barrel	Gallons		Cubic Feet Per Gallon				
	<input type="text"/>		0.134		x	1.0	= <input type="text"/>
Alternative SCM	Length		Flow Area per I.f.				
	<input type="text"/>		<input type="text"/>		x	1.0	= <input type="text"/>
Total Volume Provided (sum of values above)							= <input type="text"/>
Total Volume Required (from built upon area calculations)							= <input type="text"/>
Minimum Volume Requirement Met							= <input type="text"/>



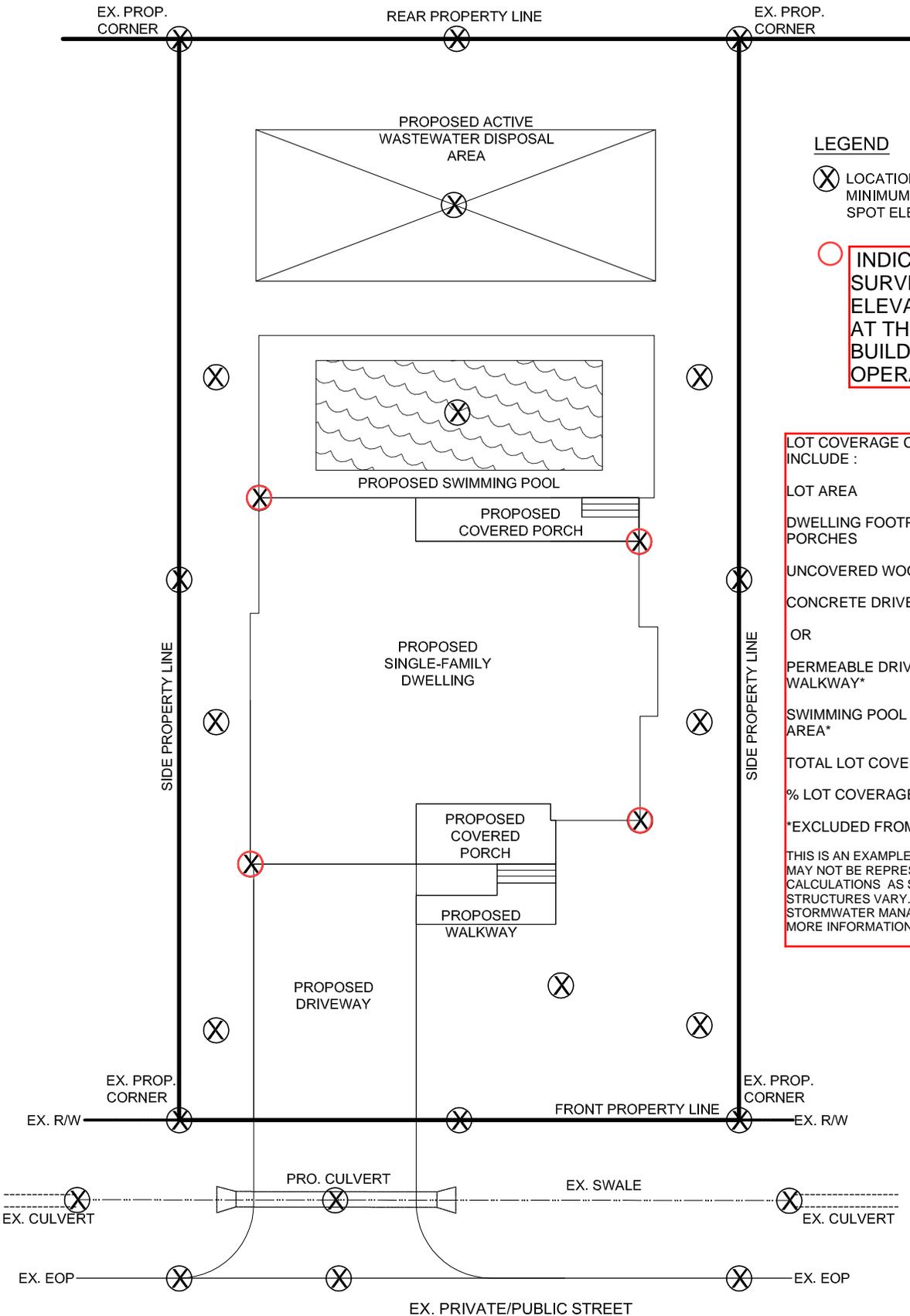
APPLICANT ACKNOWLEDGEMENT

Development Activities shall only begin after the Town of Nags Head has issued approval.

The applicant acknowledges that the proposed stormwater control measures are a condition of this approval and that any modifications to the type location and dimensions of this approval shall require additional approval by the Town of Nags Head.

I (we) _____, hereby acknowledge the above statements and agree to assume full responsibility for the the implementation and construction of the proposed stormwater management measures. Furthermore, I (we) also acknowledge the guidelines in the Recommended Standard Details for the installation of the stormwater control measures will be adhered to.

Signature: _____ Date: _____



LEGEND

(X) LOCATIONS OF MINIMUM REQUIRED SPOT ELEVATIONS

(O) INDICATES ADDITIONAL SURVEY SPOT ELEVATIONS REQUIRED AT THE COMPLETION OF BUILDING PAD FILL OPERATIONS.

LOT COVERAGE CALCULATIONS SHOULD INCLUDE :

- LOT AREA
- DWELLING FOOTPRINT W/ COVERED PORCHES
- UNCOVERED WOOD DECKING*
- CONCRETE DRIVEWAY, PATIO AND WALKWAY
- OR
- PERMEABLE DRIVEWAY, PATIO AND WALKWAY*
- SWIMMING POOL SURFACE AREA*
- TOTAL LOT COVERAGE
- % LOT COVERAGE

*EXCLUDED FROM BUILT UPON AREA

THIS IS AN EXAMPLE INTENDED FOR GUIDANCE. IT MAY NOT BE REPRESENTATIVE OF ALL REQUIRED CALCULATIONS AS SITE LAYOUT, MATERIALS AND STRUCTURES VARY. SEE RESIDENTIAL STORMWATER MANAGEMENT APPLICATION FOR MORE INFORMATION.

MINIMUM REQUIRED SURVEY INFORMATION FOR RESIDENTIAL SITE DEVELOPMENT PLANS

SCALE: NONE

IN ACCORDANCE WITH TOWN CODE SECT. 34-8.C

NOTE: THE INFORMATION DESCRIBED HEREON IS FOR REFERENCE PURPOSES ONLY. EXISTING SITE CONDITIONS MAY WARRANT A GREATER LEVEL OF DETAIL, I.E. TOPOGRAPHY, DITCHES, SURFACE IMPROVEMENTS, ETC. IT IS THE RESPONSIBILITY OF THE APPLICANT TO PROVIDE A SUFFICIENT LEVEL OF DETAIL IN ACCORDANCE WITH CHAPTER 34, STORMWATER, FILL AND RUNOFF MANAGEMENT.

