

CEDS ENVIRONMENTAL SITE DESIGN CHECKLIST

This form is designed to help clean water advocates determine if a stormwater concept plan makes full use of Environmental Site Design (ESD). First the form takes the user through all the sensitive features that should be protected during site planning. A question in bold-italics is provided for each feature. A “no” to this question indicates an important aquatic resource protection opportunity has been missed. Feel free to contact CEDS at 410-654-3021 or Help@ceds.org for assistance in correcting this missed opportunity. If you’re uncertain about a question then contact CEDS for advice. For further information visit our ESD website at: ceds.org/esd

SITE NAME:	COUNTY/CITY:
LOCATION:	
YOUR NAME:	REVIEW DATE:
E-MAIL:	PHONE:
If less than 40% of the site is covered by existing impervious surfacings then it’s a “new” development project; begin with the Initial Review. If existing impervious surfaces cover more than 40% of the site then it’s a redevelopment project and you should go to N (<i>page 3</i>).	Yes No ?
Initial Review	
Do plans show that all impervious surfaces will drain to one or more ESD practices?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Do plans show a buffer of undisturbed forest or other vegetation will be maintained along all wetlands, streams, ponds, lakes, tidal waters or other waterways? In other words, do the limits-of-disturbance intrude within 50- to 100-feet of these waters?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Have forest conservation requirements been met onsite (<i>as opposed to paying a fee in-lieu of</i>)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Detailed Review	
A Does <i>Web Soil Survey</i> (http://websoilsurvey.nrcs.usda.gov/app/) show soils present that have a high erosion factor (<i>k factor >0.35; if no go to B</i>)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
If high-erosion factor soils are present then are any located on slopes steeper than 5% (<i>if no go to B</i>)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>If yes again, then are these steep, highly-erodible soils protected from development?</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B Does <i>Web Soil Survey</i> show soils with more than a 15% slope are present on the site (<i>if no go to C</i>)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
If yes then are these steep slopes protected from disturbance (<i>if yes go to C</i>)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>If steep slopes are proposed for disturbance then do the supporting documents explain how all alternatives have been exhausted?</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

		Yes	No	?
C	Will uphill areas drain toward the site (<i>if no go to D</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>If yes, then does the plan show measures for diverting runoff away from the site (if yes go to D).</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>If no, then does the plan show that offsite runoff will be safely conveyed through the site in well-vegetated channels, pipes, or other erosive resistant practices?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D	Are wetlands, streams, creeks or other aquatic resources present on or adjoining the site (<i>if no go to E</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>If yes, then is a 50- to 200-foot buffer shown along all wetlands, streams, creeks, etc?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	Are forests present on the site (<i>if no go to F</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If yes, then will all of these forests remain after development (<i>if yes go to G</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>If no, then is an explanation present in the stormwater computations regarding how clustering, Better Site Design, and other measures were exhausted to minimize forest disturbance?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F	<i>If forest is absent on the site then have any pervious areas been proposed for conversion to forest?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	Does <u>Web Soil Survey</u> show Hydrologic Soil Groups A-C are present on the site (<i>if no go to H</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>If yes, then are all proposed impervious surface located upslope of these permeable soils?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>If no, then what percentage of the impervious area will be upslope of permeable soils: %</i>			
H	Do all impervious surfaces drain to a micro-scale or nonstructural practice (<i>if yes go to I</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If no, then what percentage of the impervious area does drain to these practices: %			
	Do the stormwater computations contain an explanation of efforts to achieve 100% ESD treatment by:			
	1. Reducing impervious area including the use of alternative surfaces?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. Relocating impervious areas to drain to permeable soils suited for ESD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I	Do the stormwater computations show that 100% of the Rainfall Target (P_E) has been treated with ESD Practices (<i>if yes go to J</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If not, then what percentage of the Rainfall Target has been treated with ESD Practices: %			
	Do the stormwater computations contain an explanation of efforts to achieve 100% P_E treatment by:			
	1. Reducing impervious area including the use of alternative surfaces?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		Yes	No	?
2.	Relocating impervious areas to drain to permeable soils suited for ESD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Increasing the surface area or depth of micro-scale practices?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Will structural, end-of-pipe practices (<i>the least preferred option</i>) be used to treat the remainder of the P _E ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J	Will the site contain any uses considered hotspots as defined in <u>Section 2.8</u> of the 2000 Manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If yes, then is runoff from these areas treated with practices that contain underdrains or other measures to prevent infiltration and groundwater contamination?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UNIQUELY SENSITIVE WATERS				
K	Is the project located in the drainage area of High-Quality (Tier II) Waters listed at: www.mde.maryland.gov/ResearchCenter/Data/waterQualityStandards/Antidegradation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L	Is the project located in the drainage of a waterway listed on MDE's TMDL webpage: http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/Summittals/index.asp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M	Does the Maryland Environmental Resources & Land Information Network (MERLIN) website (www.mdmerlin.net) show that the site drains to a Wetland of Special State Concern or a Sensitive Species Project Review Area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If your answer was yes to K, L, or M then contact CEDS for advice about determining if ESD will be sufficient to protect these uniquely sensitive waters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REDEVELOPMENT & ESD CLEAN WATER PROTECTION OPPORTUNITIES (Existing impervious area is greater than 40% of site area)				
N	Does the concept plan show Limits Of Disturbance (LOD)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Does the LOD seem reasonable in that it extends sufficiently far from proposed structures to allow for construction activity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O	Does the plan show that:			
	1. Impervious area within the LOD will be reduced by 50% or more? <i>Or</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. ESD Practices have been used to treat the Water Quality volume (WQ _v) for at least 50% of the existing impervious area within the LOD? <i>Or</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3. A combination of impervious area reduction and ESD treatment has been used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If the answer is yes to any of these three questions then go to R, otherwise go to P.			
P	Have any of the following alternatives to the three preceding options been used:			
	1. Treat 50% of existing imperviousness WQ _v with on-site structural Best Management Practices? <i>Or</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. Treat 50% of existing imperviousness WQ _v with off-site structural BMPs? <i>Or</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3. A combination of the two preceding alternatives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

