



**Prince George's County**  
 Department of Permitting, Inspections  
 and Enforcement  
**SITE/ROAD PLAN REVIEW DIVISION**  
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**INFILTRATION TYPE DEVICE  
 DESIGN REVIEW CHECKLIST**

This checklist serves as a guide for the consultant in the preparation and for the County the review of

- I-1 Infiltration Trench
- A-2 Permeable Paving
- A-3 Reinforced Turf
- M-4 Infiltration Berm
- M-5 Dry Well

Any questions regarding items contained herein should be referred to the Prince George's County DPIE for clarification. Applicable page number or section in the Stormwater Management Design Manual, County Code, or Maryland Design Manual for specific design criteria are included for reference.

**NOTE: PLANS SUBMITTED WITHOUT A COMPLETED  
 CHECKLIST MAY BE RETURNED WITHOUT REVIEW**

Site/Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Applicant: \_\_\_\_\_ Consultant: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_ Email Address: \_\_\_\_\_

Site Development Concept Plan No.: \_\_\_\_\_ DPIE Permit Case No.: \_\_\_\_\_

Consultant: Please complete the checklist below by indicating the following:

C or ✓ = Complete or checked; X = Not Applicable; O = Outstanding, need to address

Please place the appropriate symbol in the CONSULT column.

Item #	Design Checklist Item	Reference	CONSULT	DPIE
<b>A</b>	<b>METHODOLOGY</b>			
A-1	All infiltration devices adjacent to steep slopes must adhere to the Prince George's Soil Conservation District and Maryland Department of the Environment's guidance on setbacks to steep slopes.	MDE 3.28		

Item #	Design Checklist Item	Reference	CONSULT	DPIE
A-2	<p>ESD devices are located at least:</p> <ul style="list-style-type: none"> <li>• 10 feet from any slab building</li> <li>• 20 feet from any building with a basement</li> <li>• 30 feet from water supply wells and</li> <li>• 25 feet from septic systems</li> </ul> <p>If the facility infiltrates and no under drain is provided, then the practice is located at least:</p> <ul style="list-style-type: none"> <li>• 50 feet from confined water supply wells and</li> <li>• 100 feet from unconfined water supply wells.</li> </ul> <p>Structural BMPs (i.e. infiltration trenches) are located</p> <ul style="list-style-type: none"> <li>• 15 feet from any slab building</li> <li>• 25 feet from any building with a basement</li> <li>• 50 feet from septic fields</li> <li>• 100 feet from water wells</li> </ul>			
A-3	The entire bottom of the device must be in undisturbed ground, not in fill.			
A-4	Provide a minimum of 4 foot clearance from bottom of device to groundwater table.	MDE 3.28		
A-5	Runoff from hotspot areas cannot be infiltrated without proper pretreatment to remove hydrocarbons, trace metals, or toxicants.	MDE 3.28		
A-6	Device designed to drain ESDv or WQv within 48 hours (as applicable).	MDE 3.29		
A-7	For drywells and infiltration trenches, location of observation well provided. Set top at-grade for mowed areas and 6" above-grade for landscape areas.	MDE 3.30		
A-8	BMP Summary Table provided.	10.5.4.2		
A-9	For multiple structures of the same type, a table with design and required dimensions and volumes is provided. The table shall be set up to add as-built information.	2.2.1		
A-10	Devices are not located above or on Marlboro Clay, Howell or Christiana soil types, unless geotechnical report indicates that infiltration will not impact these soils.	10.5.4.1		
<b>B</b>	<b>INFILTRATION TRENCH PLAN INFORMATION (I-1)</b>			
B-1	Design is based on a porosity of 40%.	9.7.4.3		
B-2	Access is provided to the device for maintenance.	MDE 3.30		
B-3	The facility is offline and flow splitter pipes are sized to convey the required flow to the infiltration trench, and bypass the design storm. Pipe invert is set so the required flow is diverted to device and is shown in profile.	MDE3.29		
B-4	Perforated distribution pipe is provided.			
B-5	A minimum of 25% of the WQv is pretreated prior to entry to an infiltration facility. If the $f$ for the underlying soils is greater than 2.00 inches per hour, 50% of the WQv is pretreated prior to entry into an infiltration facility.	MDE 3.29		
B-6	The minimum infiltration rate is not less than 0.52 inches/hour.	9.7.4.3		

Item #	Design Checklist Item	Reference	CONSULT	DPIE
B-7	The infiltration trench is not at a location which could cause overflow path problems to downgrade properties.	9.7.4.3		
B-8	The maximum contributing area to an individual stormwater infiltration trench (I-1) is 5 acres, unless combined with 10 or 100-year attenuation.	MDE 3.28		
B-9	A minimum of 5-foot horizontal distance is maintained between a utility line and infiltration trench. No utility lines are placed within the infiltration trench and other crossings are limited and have a one foot vertical clearance	9.7.4.3		
B-10	Surface drainage systems have pretreatment prior to entering the trench.	MDE 3.29 9.7.4.2		
B-11	Infiltration trenches are not utilized as an integral part of the main conveyance system and are generally located "off-line." An off-line trench is connected to an inlet structure that has a sump chamber with minimum depth of 3 feet below the trench inlet pipe or other proprietary pre-treatment device.	9.7.4.3		
B-12	For surface infiltration trenches, hydraulic calculations are provided to demonstrate sizing of outlet structure to convey the 10-year storm in a non-erosive manner (e.g., prevent downstream slope erosion).	9.7.4.3		
B-13	A 6" layer of clean, washed sand is provided on the bottom of the trench. (Note: This area may be included in the trench volume computations) Geotextile fabric has <b>NOT</b> been used on the bottom. Manufactured sand has not been substituted for the sand layer.	MDE 3.29 9.7.4.4		
B-14	The flow splitter has been designed to properly divert the treatment volume into the infiltration trench with larger storms bypassing above that elevation.	9.7.4.4		
B-15	The length of the perforated section of the feeder pipe is sized such that the total area of the holes is greater than 5 times the cross-sectional area of the feeder pipe.	9.7.4.4		
B-16	Feeder pipes are noted to be blocked until all contributing drainage areas have been completely stabilized. The following note is on the plans: "Infiltration systems shall not receive runoff until the entire contributory drainage area to the infiltration system is permanently stabilized."	9.7.4.4		
B-17	Typical section and construction specifications provided.	10.5.4.1		
<b>C</b>	<b>PERMEABLE PAVING PLAN INFORMATION (A-2)</b>			
C-1	Practice is only utilized on HSG A, B, or C soil types, unless a geotechnical report indicates that the minimum infiltration rate (0.52 in/hr) is achieved.	MDE 5.46		
C-2	Surface slopes are less than 5%.	MDE 5.47		
C-3	Permeable paving areas that exceed 10,000 sf were designed using the design methods outlined in MDE Appendix D.13 for infiltration trenches.	MDE 5.48		
C-4	Table 10.3 for RCN reduction determination was not used for the 100-year storm analysis.	10.6.2.3		
C-5	Permeable pavement subbase is not placed on fill, only on granular material.	10.6.2.4		

Item #	Design Checklist Item	Reference	CONSULT	DPIE
C-6	Permeable pavement does not treat hotspots.	MDE 5.47		
C-7	Traffic loading has been considered with regard to bearing capacity of soils.	MDE 5.47		
C-8	Soil borings to establish water elevation and suitable soils have been provided at a rate of 1 borings per 2,500 sf of permeable pavement. For permeable pavement areas greater than 10,000 sf, each boring also has an infiltration test.	10.6.2.2		
C-9	Filter fabric is not proposed on the bottom between the subbase and soil subgrade.	MDE 5.48		
C-10	Where no protection of the subsurface soils from construction traffic can be provided, a 4" thick layer of sand or pea gravel (1/8" to 3/8" stone) is provided to act as a bridging layer between the subbase reservoir and subsurface soils.	MDE 5.48		
C-11	A minimum 3" perforated or slotted underdrain has been provided at the bottom of the subbase and connects to an outfall.	MDE 5.49		
C-12	A minimum 2" perforated or slotted overdrain has been provided within the subbase, just under the permeable pavement, and connects to an outfall.	MDE 5.49		
C-13	A subbase layer of clean, open graded, washed No. 57 aggregate is used below the pavement surface.	MDE 5.48		
C-14	The bottom of the stone subbase is level to enhance distribution.	MDE 5.47		
C-15	A note is included on the plan stating: "Manufacturer's recommended installation practices must be followed."			
C-16	An alternative mode for runoff to enter subbase is provided. For example, a 2 foot wide stone edge drain where there is no curb and gutter or raised inlets where there is curb and gutter.	MDE 5.47		
C-17	Dry utilities (including gas lines 3" or smaller) that must cross under permeable pavements are in a conduit.	10.6.2.1		
C-18	Typical section, construction specification, and sequence of construction provided. When terracing is required, provide sections.	10.6.2.4		
C-19	Consideration of damage by root penetration and clogging from leaves was given where trees and shrubs are located adjacent to permeable pavement.	MDE 5.50 10.6.2.5		
<b>D</b>	<b>REINFORCED TURF INFORMATION (A-3)</b>			
D-1	Drainage area is limited to the area covered by the turf. If runoff from adjacent impervious areas are to be treated, the device is designed as an infiltration trench.			
D-2	Practice is only proposed on HSG soil types A, B, or C.	MDE 5.53		
D-3	Slopes are at least 1% and no more than 5%.	MDE 5.53		
D-4	Reinforced turf is proposed in areas where regular maintenance can be performed.	10.6.3.1		
D-5	Traffic loading has been considered with regard to allowable sub soil bearing capacity.	MDE 5.53		
D-6	A porosity of 40% has been used for the stone reservoir.	10.6.3.3		
D-7	Reinforced Turf is identified on landscape plans. Trees are located at least 5' and shrubs 2' from the reinforced turf.	10.6.3.4		

Item #	Design Checklist Item	Reference	CONSULT	DPIE
D-8	Reinforced Turf is located to maintain a minimum of 1 foot vertical clearance from underground utilities.	10.6.3.1		
D-9	Fill material between natural ground and the subbase of the reinforced turf is either gravel or material meeting AASHTO soil classification A-1, A-2, or A-3.	10.6.3.4		
D-10	A subbase layer of clean, open graded, washed No. 57 aggregate is used below the turf.	MDE 5.53		
D-11	Typical section, construction specification, and sequence of construction provided.	10.6.3.4		
<b>E</b>	<b>INFILTRATION BERM (M-4)</b>			
E-1	Facility is not located above or on a Marlboro Clay, Howell, or Christiana soil.	10.5.4.1		
E-2	The maximum upstream and downstream slope is 10%.	MDE 5.87		
E-3	Side slopes are 3:1 or flatter.	10.8.4.4		
E-4	If used in a series along a slope, the location at the downstream toe of each berm is at the same elevation as the crest of the next berm downslope.	MDE 5.88		
E-5	If the 10-year storm flows over the berm it is non-erosive.	MDE 5.88		
E-6	The impervious area to one infiltration berm is limited to 75 feet, with approximately 0.2 acres of impervious.	10.8.4.1		
E-7	A pea gravel diaphragm at least 1 foot wide by 1 foot deep is proposed along the edge of pavement. The diaphragm is increased to C-33 size 57 stone or larger and 2 feet wide by 2 feet deep at concentrated inflow points.	10.8.4.4		
E-8	Dimensions (length and width) provided on the plan.	10.8.4.4		
E-9	Typical section, construction specification, and sequence of construction provided.	10.5.4.1		
E-10	Landscaping on the berm is native meadow grass and shrubs or turf grass if berm is to be mowed.	MDE 5.88		
E-11	The grass shall meet the criteria of seed mix 6, 7, 9, or 11 from MD-342 (PG SCD manual III-51). The seed mix shall be noted on the permit drawings.	10.8.4.4		
<b>F</b>	<b>DRY WELL PLAN INFORMATION (M-5)</b>			
F-1	Maximum DA is 1,000 sf for each facility.	MDE 5.92 10.8.5.1		
F-2	Device is located in HSG A or B soils. Maximum gravel thickness (depth) in an "A" soil, is 12 feet and for a "B" soil is 5 feet.	MDE 5.92 10.8.5.1		
F-3	Devices located adjacent to steep slopes have taken into consideration the MDE's Dam Safety Policy Memorandum #3 and PG SCD Policy Memorandum #01-2019 or most recent revisions.			
F-4	Geotechnical Engineer has provided a recommendation that soils are suitable for drywells.	Techno-Gram 004-2018		
F-5	Pretreatment of woody or leafy debris is noted to be provided by gutter screens or other methods.	MDE 5.92		

<b>Item #</b>	<b>Design Checklist Item</b>	<b>Reference</b>	<b>CONSULT</b>	<b>DPIE</b>
F-6	Location of each dry well is shown on the plan with a tie-in to a building corner.	10.8.5.4		
F-7	The bottom has a 12" layer of clean washed sand meeting ASTM C-33.	MDE 5.92 10.8.5.4		
F-8	Dry wells do not exceed 5 feet in depth for B soil and 12 feet for A soil.	MDE 5.92		
F-9	Between 1 and 3 feet of soil cover is provided and is stabilized with grass.	MDE 5.94 10.8.5.1		
F-10	A 4" horizontal perforated pipe to distribute water across the length of the device is provided within a foot of the top of gravel.	10.8.5.4		
F-11	An observation well is provided.	MDE 5.94		
F-12	Typical section and construction specifications meeting MDE manual are provided.	MDE 5.94 10.5.4.1		
<b>G</b>	<b>SUPPORTING INFORMATION</b>			
G-1	A geotechnical report identifying soil type and water table elevations, per Techno-Gram 004-2018 has been provided. Soil types have been identified using the Unified Soil Classification System.	10.5.2		

\*This checklist has multiple stormwater infiltration devices compiled into one design review checklist. Use the appropriate checklist for the items being reviewed