Appendix C. Aquifer Protection Areas (APAs)

For the use of stormwater infiltration, the Stormwater Pollution Prevention Plan (the SWPPP) should consider measures to reduce or mitigate potential impacts to both ground water (aquifers) and surface waters, taking into consideration both quantity and quality of the runoff. The emphasis should be to minimize, to the extent possible, changes between pre-development and post-development runoff rates and volumes.

The basic stormwater principals for Aquifer Protection Areas (APAs) (and other groundwater drinking supply areas) are to prevent inadvertent pollution discharges/releases to the ground, while encouraging recharge of stormwater where it does not endanger groundwater quality. Measures include:

- prevent illicit discharges to storm water, including fuel/chemical pollution releases to the ground.
- minimize impervious coverage and disconnect large impervious areas with natural or landscape areas.
- direct paved surface runoff to aboveground type land treatment structures – sheet flow, surface swales, depressed grass islands, detention/retention and infiltration basins, and wet basins. These provide an opportunity for volatilization of volatile organic compounds to the extent possible before the stormwater can infiltrate into the ground.
- provide necessary impervious pavement in high potential pollutant release areas. These "stormwater hot spots" include certain lands use types or storage and loading areas, fueling areas, intensive parking areas and roadways (see table below).
- only use subsurface recharge structures such as dry wells, galleries, or leaching trenches, to directly infiltrate clean runoff such as rooftops, or other clean surfaces. These structures do not adequately allow for attenuation of salts, solvents, fuels, or other soluble compounds in groundwater that may be contained in runoff.
- restrict pavement deicing chemicals or use an environmentally suitable substitute such as sand only, or alternative de-icing agents such as calcium chloride or calcium magnesium.

Infiltration of stormwater should be **restricted** under the following site conditions:

- ***Land Uses with Higher Potential Pollutant Loads:*** Infiltration of stormwater from these land uses or activities (refer to Table 10-4 below), also referred to as stormwater "hotspots," can contaminate public and private groundwater supplies. Infiltration of stormwater from these land uses, or activities may be allowed by the review authority with appropriate pretreatment. Pretreatment could consist of one or a combination of the primary or secondary treatment practices described in the Stormwater Quality Manual provided that the treatment practice is designed to remove the stormwater contaminants of concern.
- ***Subsurface Contamination:*** Infiltration of stormwater in areas with or that may introduce soil or groundwater contamination such as brownfield sites and urban redevelopment areas can mobilize contaminants.
- ***Groundwater Supply and Wellhead Areas:*** Infiltration of stormwater can potentially contaminate groundwater drinking water supplies in immediate public drinking water wellhead areas.

Table 10-4: Land Uses or Activities with Higher Potential Pollutant Loads (LUHPPLs)

Land Use/Activities	Stormwater Infiltration Systems Allowed?
Industrial facilities subject to the CT DEEP General Permit for the Discharge of Stormwater Associated with Industrial Activity[1]	Yes[2]
Vehicle salvage yards and vehicle recycling facilities	No
Vehicle fueling facilities (gas stations and other facilities with on-site vehicle fueling)	No
Vehicle service, maintenance, and equipment cleaning facilities	No
Fleet storage areas (cars, buses, trucks, public works)	Yes[2]
Public works storage areas	Yes[2]
Road salt storage facilities (if exposed to rainfall)	No
Commercial Nurseries	Yes[2]
Flat metal rooftops of industrial facilities	No
Facilities with outdoor storage and loading/unloading of hazardous substances or materials, regardless of the primary land use of the facility or development	No
Facilities subject to chemical inventory reporting under Section 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA), if materials or containers are exposed to rainfall	Yes[2]
Marinas (service and maintenance)	No

Notes:

[1] Stormwater pollution prevention plans are required for these facilities. Source control practices and pollution prevention (refer to Chapter 6) are recommended for the other land uses and activities listed above.

[2] If allowed by the review authority under the conditions described in this section, special considerations to the site that have subsurface contamination are essential and may severely limit the applications in vehicle salvage yards and recycling facilities.

Note: This table was taken from page 192 of the Connecticut Stormwater Quality Manual (published September 30, 2023).

For further information regarding the design of stormwater collection systems in Aquifer Protection Areas, contact the Aquifer Protection Area Program at (860) 424-3020.