

IOWA STORM WATER MANAGEMENT MANUAL

9.14 Glossary

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Item	Description
Absorption	Retention of water by soil layers, plants, etc.
Acre-feet	A measure of volume that is equivalent to one foot of depth spread across an acre (43,560 square feet) of level surface area. 1 acre-feet = 43,560 CF
Active construction	Sites where building or site construction involves soil disturbance, where all such disturbed areas have not been stabilized by permanent vegetation.
Allowable flow rates	Regulated limits for stormwater rates of flow leaving a given site, stormwater practice or watershed area. These are typically set to match a level equivalent to historic or existing within a given watershed area.
Allowable high water depth	The maximum value recommended by ISWMM for the highest level of temporary storage within a wetland or pond during a given storm event.
Annual recurrence chance	The chance a given storm event or flood condition will occur during a given year.
Base flow	A generally constant, low level of water flow often attributed to groundwater sources.
Bentonite	A clay compound which expands when contacted with water, creating an effective barrier to water movement.
Biochemical reactions	Biological and chemical processes that can convert nutrients and/or other compounds into another compound. For example, conversion of nitrates in water to nitrogen gas by anerobic bacteria.
BMP (best management practice)	A feature designed and constructed for the purpose of improving the quality or reducing the quantity of stormwater runoff leaving a given location.
CF (cubic feet)	A measure of volume that is equivalent to a cube that is 1 foot on each side.
Channel flow	Flow through a well-defined swale, channel, stream, storm sewer or culvert. Generally at greater depths of flow and velocities than shallow concentrated flow.
Chemical decomposition	The breakdown of pollutants or other chemical compounds into simpler ones.
Dewatering	The temporary lowering of water in a wetland or pond, generally to allow maintenance activities to occur or to foster establishment of new seeding or desired vegetation.
Direct surface runoff	Water created by rainfall or melting which runs across the surface of the ground or through a pipe network to a stream or other water body, without movement through the soil (groundwater) or other subsurface media within and infiltration stormwater management practice.
Disturbed acre	An area of land equal to 43,560 square feet where vegetation has been removed to accommodate active construction.

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Ecological lift	The creation of additional habitat or features that creates greater biodiversity.
ED (extended detention)	The capture and slow release of stormwater runoff over a defined period of time. Typically, ISWMM targets a drawdown period of more than 24-hours for extended detention.
Emergent wetland vegetation	Plants whose roots are typically submerged in shallow water, but have stems and leaves which project into the air above the permanent pool of a water body.
Evapotranspiration	The combination of evaporation and transpiration.
Filtration	Movement of water through vegetation or soil media leading to removal of pollutants.
Floating vegetation	Plants that float on the surface of the water.
Forebay	A constructed depression used where settling of suspended sediments can occur. Collected sediments can then be periodically removed from this area, reducing the potential need to excavate sediments from the wetland or pond itself.
Freeboard	Vertical distance between the high water level of a given storm event and point of uncontrolled overflow, such as the top of an embankment for a dam.
High water elevation (or level)	The highest level of temporary storage within a wetland or pond during a given storm event.
High water table	When seasonal groundwater levels are present close to the surface of a given landscape.
HSG (Hydrologic Soil Group)	A grouping of soils based on the expected runoff potential from a given soil. These groupings are also generally related to the type of soil and its ability to allow water to infiltrate and percolate. Soils are grouped into one of four categories (A - D). HSG A soils generally have the lowest runoff potential and often have higher infiltration / percolation rates. HSG D soils generally have the highest runoff potential and usually have the lowest ability to infiltrate / percolate water.
Impervious area	Surfaces covered by features which inhibit the downward movement of water into subsurface soils, such as buildings, pavements, gravel roads and drives, etc.
Infiltration	The movement of water through the surface of a soil, aggregate or other finished surface.

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Invasive species	An animal or plant species with limited predators or other conditions to limit its reproduction. The species has the ability to grow or multiply rapidly to levels which negatively impact biodiversity by reducing habitat for other desirable species. Invasive species are not native to the local environment.
Jurisdictional wetlands	Areas that meet a defined set of soil, moisture and vegetation conditions which are hydraulically connected to a stream or river. Impacts to such areas are regulated to the US Army Corps of Engineers (USACE). Contact USACE for additional information.
Level spreader	A device designed to convert concentrated flows to sheet flow by spreading water across a wider surface area by causing water to flow across a level plane, such as a weir, slotted drain opening or other feature constructed at a level surface elevation.
Liner	A layer made up of compacted clay materials, bentonite or synthetic materials used to create an impermeable layer to reduce water movement between the permanent pool and the surrounding soils.
Microtopography	Creation of small berms and depressions used to increase flow length (and therefore retention time) within a stormwater wetland. These features also create different water depth zones which increase habitat diversity.
Multi-stage outlet	An outlet structure designed with several outflow points. Smaller outflows are generally used at lower elevations to provide greater restrictions for more common storm events, while higher stages are generally larger allowing higher rates of flow during extremely large events.
Native soils	Soils that have not been disturbed by mass grading or other urbanization. County soil maps are expected to be more reliable in areas where such activities have not occurred.
Outlet restrictions	Use of a control measure which causes water to be stored upstream. Such practices are often designed to restrict outflow to a determined level.
Percolation	The movement of water through a media, such as soil, aggregate, sands, etc.
Permanent pool	A constant water depth expected to be supported within a wetland or pond during normal moisture conditions. This pool is often established by the level of a pipe or inlet opening, or other spillway control.
Plant uptake	Plant capture of nutrients or other compounds by roots, where they are used for growth processes and/or converted to other compounds.
Porosity	The ratio of void spaces to overall volume within a soil or other media.
Prairie remnants	Areas of tallgrass prairie which have not previously been disturbed by agricultural activities or urbanization.

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Natural conditions	As defined by ISWMM, conditions within a given area similar to pioneer settlement; generally meadow in good condition (similar to tallgrass prairie or savanna) with flow lengths and slopes representative of what would have been expected prior to construction of engineered swales, ditches, pipes, culverts or other modifications to the landscape.
Preferred high water depth	A target value recommended by ISWMM for the highest level of temporary storage within a wetland or pond during a given storm event.
Savanna	An area where trees are present, but are spaced sufficiently so that sunlight passes through the canopy to support grassland vegetation below.
Sediment loading	The amount of sediment carried by stormwater runoff to a given feature or point of interest. Tons or cubic feet (CF) are common units of measure.
Setback	A required physical horizontal separation between two features, objects or boundaries.
Settling	Gravitational forces causing sediments and other particles suspended in water to fall to the bottom of a forebay, pond or other storage area. This typically occurs in areas with lower velocities. Larger particles will settle out of suspension more quickly than finer particles.
Shallow concentrated flow	Water flowing through a defined flow path, usually in small or moderate quantities, prior to entering a more defined channel or storm sewer.
Sheet flow	A very thin layer of water passing across a surface in a manner where it does not concentrate into defined flow paths. Sheet flow generally can be sustained for only short distances without the use of level spreaders.
Soil Quality Restoration (SQR)	The re-establishment of quality soils after construction activities have impacted such soils. This is typically accomplished through the replacement of healthy topsoil materials or through soil amendments to recreate soil layers with adequate organic matter and porosity. Refer to Chapter 5, Section 6 of ISWMM.
Storm event recurrence interval (or return period)	Annual probability based on statistical analysis of observations over limited period of record.
Stormwater quality	A measure of the absence or presence of key pollutants in storm sewers, streams, rivers, lakes and other water bodies.
Stormwater quantity	A measure of either the rate or volume of stormwater runoff generated from an area of interest by a given storm event.
Stormwater rate	The volume of water passing by a given point over a certain length of time. Cubic feet per second (cfs) is a common measure.
Stormwater volume	The volume of direct surface runoff created by a given event. Cubic feet (CF), acre-feet (ac-ft) and watershed-inches are common measures.
Stream migration	The horizontal movement of a stream over a period of time.

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Submerged vegetation	Plants that typically grow entirely below the level of the permanent pool of a water body.
Temporary storage	The volume of water detained for a period of time above the permanent pool of a pond or wetland. This volume is equivalent to the product of the area and depth of water stored above the permanent pool and below the high water elevation for a given storm event.
Topography	Changes in elevation across the surface of an area.
Transpiration	The movement of water through plants, where it is used in growth processes or returned to the atmosphere through evaporation from exterior plant surfaces.
Urbanized area	An area where residential, commercial or industrial land uses have been constructed, are under development, or are being planned. These areas are most commonly found within and nearby the limits of incorporated towns and cities.
Vegetative buffer	An area where water can evenly flow across a wide permeable surface covered by native vegetation or other grasses. This slows flow velocities allowing settling or filtration of sediments.
Volatilization	The evaporation of a substance.
Watershed	The area of land which drains to a given water body or other point of interest.
Watershed-inch	A measure of volume that is equivalent to an inch of depth spread across the entire footprint of a given watershed.