

**Pierce County  
Clover Creek Basin Characterization Report  
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## GLOSSARY OF TERMS USED

100-Year Flood or Base Flood	Flood that has a 1-percent probability of being equaled or exceeded in any given year.
Aggradation	A process in which the rate of sediment deposition exceeds that of erosion and creates a persistent, long-term rise in the elevation of a streambed.
Alternative	In the context of this report, one of a number of possible options for consideration to be used as a land treatment measure.
Anadromous fish	Fish that hatch in fresh water, migrate to the ocean, mature there, and return to fresh water to reproduce; for example, salmon and steelhead.
Aquatic	Pertaining to water
Aquatic Ecosystem	A natural system based on a body of water (such as a stream, lake or estuary) with its aquatic organisms and non-living components
Aquifer	Rock or rock formations (often sand, gravel, sandstone, or limestone) that contain or carry groundwater and act as water reservoirs.
Assessment	The collection, integration, examination, and evaluation of information and values.
Bankfull Discharge	Sometimes referred to as the effective flow or ordinary high water flow. It is the channel-forming flow. It is an empirical fact that, for most streams, the bankfull discharge is the flow that has a recurrence interval of approximately 1.5 years. Most bankfull discharges have a recurrence range between 1.3 and 1.8. In some areas it could be lower or higher than this range. It is the flow that transports the most sediment for the least amount of energy.
Base Flood	Flood that has a 1-percent probability of being equaled or exceeded in any given year. Also known as the 100-year flood
Base Flood Elevation (BFE)	Water surface elevation of the base flood (100-year flood). This elevation is the basis of the insurance and floodplain management requirements of the National Flood Insurance Program.
Bed Material	The material of which a streambed is composed.
Channel Confinement	Lateral constriction of a stream channel.
Check Valve	Valve that allows water to flow in one direction but automatically closes when the direction of flow is reversed.
Closure	Shield made of strong material, such as metal or wood, used to temporarily close openings in levees, floodwalls, and dry floodproofed buildings.

Compaction	<p>The densification, settlement, or packing of soil in such a way that permeability of the soil is reduced. Compaction effectively shifts the performance of a hydrologic group to a lower permeability hydrologic group. For example, a group B hydrologic soil can be compacted and be effectively converted to a group C hydrologic soil in the way it performs in regard to runoff.</p> <p>Compaction may also refer to the densification of a fill by mechanical means.</p>
Corridor (Landscape)	<p>Landscape elements that connect similar patches of habitat through an area with different characteristics. For example, streamside vegetation may create a corridor of willows and hardwoods between meadows or through a forest.</p>
Design Capacity	<p>Volume of water that a channel, pipe, or other drainage line is designed to convey.</p>
Dry Floodproofing	<p>Protecting a building by sealing its exterior walls to prevent the entry of floodwaters.</p>
Elevation	<p>In retrofitting, the process of raising a house or other building so that it is above the height of a given flood.</p>
Federal Emergency Management Agency (FEMA)	<p>Independent agency created in 1978 to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response and recovery. FEMA administers the NFIP.</p>
Federal Insurance Administration (FIA)	<p>Component of FEMA directly responsible for administering the flood insurance aspects of the NFIP.</p>
Fill	<p>Materials such as soil, gravel, or stone that are dumped in an area to increase the ground elevation. Fill is usually placed in layers and each layer compacted (see "Compaction").</p>
Flood	<p>Under the NFIP, a partial or complete inundation of normally dry land areas from 1) the overland flow of a lake, river, stream, ditch, etc.; 2) the unusual and rapid accumulation or runoff of surface waters; and 3) mudflows or the sudden collapse of shoreline land.</p>
Flood Control	<p>Physically controlling a river or stream by structural means such as dikes and levees, which separate people and property from damaging floodwater.</p>
Flood Depth	<p>Height of flood waters above the surface of the ground at a given point.</p>
Flood Duration	<p>Amount of time between the initial rise of floodwaters, including freeboard, and their recession.</p>
Flood Elevation	<p>Height of flood waters above an elevation datum plane.</p>

Flood Frequency	Probability expressed as a percentage, that a flood of a given size would be equaled or exceeded in any given year. The flood that has a 1-percent probability (1 in 100) of being equaled or exceeded in any given year is often referred to as the 100-year flood. Similarly, the floods that have a 2-percent probability (1 in 50) and a 0.2-percent probability (1 in 500) of being equaled or exceeded in any year are referred to as the 50-year flood and the 500-year flood, respectively.
Flood hazard management	A comprehensive approach to flood control issues that encompasses both flood control management and floodplain management and uses both structural and nonstructural methods of reducing flood hazards. Flood hazard management is not limited to areas within the floodplain, but can extend to the entire watershed. Stormwater management is also included since the control of the quantity and quality (sediment load) of stormwater runoff into streams and rivers can have significant impacts on stream and river flooding.
Floodplain	The land area along the sides of a river that becomes inundated with water during a flood. Floodplains are often defined by the level of intensity of the flood. The 100-year floodplain, for example, is the area likely to be inundated once, on average, every 100 years, based on statistics derived from past flooding.
Floodplain management	Management of areas within the floodplain, which includes resource protection, environmental enhancement, flood damage protection, and land use regulations.
Floodprone Area	Generally includes the active floodplain and the low terrace. The elevation of the floodprone is qualitatively defined as 2 times the bankfull depth.
Floodproofing	Structural or nonstructural changes or adjustments included in the design, construction, or alteration of a building that reduce damage to the building and its contents from flooding and erosion. See “Dry floodproofing” and “Wet floodproofing.”
Floodwall	Flood barrier constructed of manmade materials, such as concrete or masonry.
Floodway	Portion of the regulatory floodplain that must be kept free of development so that flood elevations will not increase beyond a set limit – a maximum of 1 foot under the National Flood Insurance Program (NFIP). The floodway usually consists of the stream channel and land along its sides.
Flood Velocity	Speed at which water moves during a flood. Velocities usually vary across the floodplain. They are usually greatest near the channel and lowest near the edges of the floodplain.
Freeboard	Additional height above the base flood elevation incorporated into facilities in flood areas to account for uncertainties in the determination of flood elevations.

Geographic Information System (GIS)	An information processing technology to input, store, manipulate, analyze, and display data; a system of computer maps with corresponding site-specific information that can be combined electronically to provide reports and maps
Geologic and Geomorphic Processes	The actions or events that shape and control the distribution of materials, their states, and their morphology, within the interior and on the surface of the earth.
Geomorphology	The geologic study of the shape and evolution of the earth's landforms.
Glacial Till	Mixed rock of clay, sand, gravel, and boulders transported and deposited by glaciers.
Gradient (of stream)	Degree of inclination of a stream channel parallel to stream flow; it may be represented as a ratio, fraction, percentage, or angle.
Hazard mitigation	Action taken to reduce or eliminate long-term risk to people and property from hazards such as floods, earthquakes, and fires.
Headcut	A stream segment that is actively incising and shows an evident, abrupt change in bed elevation and/or the bank-height ratio. The upstream end of the headcut is the "nick-point" which could be a permanent structure such as bedrock or a culvert, or could be temporary, as an embedded logjam.
Hydrodynamic force	Force exerted by moving water.
Hydrostatic force	Force exerted by water at rest, including lateral pressure on walls and uplift (buoyancy) on floors.
Incised Channel	A stream channel in which the bed has dropped and as a result, the stream is disconnected from its floodplain.
Landscape	All the natural features such as grasslands, hills, forest, and water, which distinguish one part of the earth's surface from another part; usually that portion of land which the eye can comprehend in a single view, including all its natural characteristics.
Levee	Flood barrier constructed of compacted soil
Lowest Adjacent Grade (LAG)	Elevation of the lowest ground surface that touches any of the exterior walls of a building.
Lowest floor	Floor of the lowest enclosed area within the building, including the basement.
Masonry veneer	Nonstructural, decorative, exterior layer of brick, stone, or concrete block added to the walls of a building.
Meander Pattern	A series of sinuous curves or loops in the course of a stream that are produced as a stream swings from side to side in flowing across its floodplain.
Native species	Species that normally live and thrive in a particular ecosystem.
Rates of rise and fall	How rapidly the elevation of the water rises and falls during a flood.
Redd	Spawning nest made by salmonid fish.

Reference Site (Stream Geomorphology Context)	The reference site is the stable morphological stream type in the system. This type may, or may not, be in a pristine state. The majority of time it is not pristine; however, the important geomorphologic, and most likely vegetative components, are there to sustain a long-term stable stream type. The reference site would fall within the range of natural variability for geomorphic type and bedload transport.
Regulatory floodplain	Flood hazard area within which a community regulates development, including new construction, the repair of substantially damaged buildings, and substantial improvements to existing buildings. In communities participating in the NFIP, the regulatory floodplain must include at least the area inundated by the base flood, also referred to as the Special Flood hazard Area (SFHA). See "Floodplain."
Relocation	In retrofitting, the process of moving a house or other building to a new location outside the flood hazard area.
Retrofitting	Making changes to an existing house or other building to protect it from flooding or other hazards.
Restoration	Holistic actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes. Generally refers to the process of enabling the system to resume acting or continue to act following disturbance as if the disturbances were absent. Restoration management activities can be either active or more passive.
Riparian Area	Area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation.
Riparian Vegetation	Vegetation adapted to moist growing conditions found along waterways and shorelines.
Riprap	Pieces of rock added to the surface of a fill slope, such as the side of a levee, to prevent erosion.
Salmonids	Fish of the family Salmonidae, including salmon, trout, chars, whitefish, and grayling.
Scour	Process by which floodwaters remove soil around objects that obstructs flow, such as the foundation wall of a house.
Sealant	In retrofitting, a waterproofing material or substance used to prevent the infiltration of floodwater.
Sinuosity	The ratio of stream channel length (measured in the thalweg) to the down-valley distance, or is also the ratio of the valley slope to the channel slope. When measured accurately from aerial photos, channel sinuosity may also be used to estimate channel slope (valley slope/sinuosity). Sometimes sinuosity is referred to as the meanderiness of a stream.
Spawning habitat	Areas used by adult fish for laying and fertilizing eggs.

Spawning redds	Spawning nest made by salmon or steelhead in the gravel bed of a river.
Special Flood Hazard Area (SFHA)	Portion of the floodplain subject to inundation by the base flood, designated Zone A, AE, A1 – A30, AH, AO, V, VE, V1 – V30, or M on a FIRM.
Stream	A channel of perennial or intermittent flowing water.
Stormwater management	Management of the quantity, quality, and conveyance of surface runoff from precipitation events.
Stream geomorphology	The study of the riparian landscape and its affects on stream flow patterns. The landscape tends toward a dynamic equilibrium state where stream flow patterns are affected by the landscapes (or streambeds) ability to erode or resist erosion.
Substantial damage	Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
Substantial improvement	Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. This term applies to structures that have incurred substantial damage, regardless of the actual repair work performed.
Terrestrial	Pertaining to land.
Thalweg	German phrase meaning “Valley Way” which refers the line of the deepest water within the low flow channel area of a stream or river.
Watershed	The region draining into a river, river system, or body of water.
Watershed/drainage basin	The area within which all surface water – whether from rainfall, snow melt, springs, or other sources – flows to a single water body or watercourse. The boundary of a watershed is defined by natural topography.
Wet floodproofing	Protecting a building by allowing floodwaters to enter so that internal and external hydrostatic pressures are equalized. Usually, only enclosed areas used for parking, storage, or building access are wet floodproofed.
Wetland	In general, an area soaked by surface or groundwater frequently enough to support vegetation that requires saturated soil conditions for growth and reproduction. Federal agencies define wetlands as possessing three essential characteristics: 1.) hydrophytic vegetation, 2.) hydric soils, and 3.) wetland hydrology. These three features must all be met before an area is identified as a wetland.

**Pierce County  
Clover Creek Basin Characterization Report**

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