

General Floodplain Regulations :

Floodplains must be preserved for the primary function of conveying unobstructed floodwaters. Land within the floodplain may be used for other purposes so long as the primary conveyance and storage function of the floodplain is preserved, the use is not a detriment to water quality, and the use is consistent with the local Land Development Code.

In general, any use that has the potential for the following to occur shall be prohibited in the floodplain:

- Obstruction of the flood water flow so that the floodplain is altered in elevation (unless approved through a floodplain modification study)
- Reduction in the carrying capacity of the channel (unless approved through a floodplain modification study)
- Potential for material, equipment, or facilities to become dislodged or displaced and to be deposited downstream causing culvert or bridge blockage, channel degradation, or damages to other properties
- Potential for negatively impacting water quality

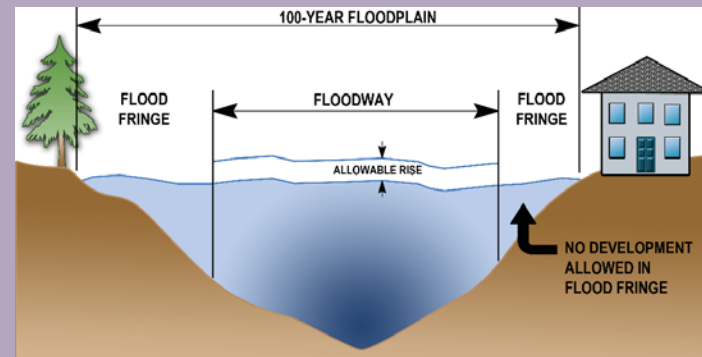
The Floodplain Administrator has the final determination as to whether a particular use or proposed improvement is in conformance with SEMSWA's floodplain regulations and management program.

In addition to the local floodplain regulations, contractors must apply for and receive both a Grading, Erosion, and Sediment Control (GESC) permit for land disturbances and a Building Permit for additions or new construction.

What does this mean to me?

When planning, designing, or constructing improvements within a regulated floodplain, you should first contact the Floodplain Administrator at SEMSWA to discuss the nature of the improvements and whether those improvements are allowed by the floodplain regulations. In cases where improvements are allowable, a floodplain development permit will likely be required to explain the improvements and to make the local government aware that some activity is occurring within the floodplain (for additional information see "Floodplain Development Permit" within this pocket guide). In addition, the proper building permits and GESC requirements must be addressed.

Floodplain Definitions



A **floodplain** is composed of two primary zones; the **floodway** and the **flood fringe**. The **floodway** is the portion of the floodplain with the greatest depths and velocities and is the area of highest risk. Communities must regulate development in the floodway to ensure that there are no increases in upstream or downstream flood elevations. Areas of flooding outside of the floodway are called the **flood fringe**. Within SEMSWA's jurisdiction, **development** is not allowed in the flood fringe. Below are a few key guidelines regarding the floodway and flood fringe:

- With regards to work in the floodplain, **development** means any project not specifically designed and constructed as a channel improvement or stabilization project
- The floodway must be preserved to allow the floodwater to pass through the river or stream without being obstructed. The floodway is shown as the cross hatched areas on the FIRM (See "Is my project in a regulated floodplain?" for additional details). No private development is allowed in the floodway.
- Some improvements are allowed in the **flood fringe**, but must meet the local and Federal floodplain regulation requirements. This pocket guide provides information regarding what is and what is not allowed in the flood fringe.
- If any proposed improvements cause the boundaries of the floodplain or floodway to change, the owner may have to submit information to FEMA in the form of a request for a Conditional Letter of Map Change (CLOMC). This application must be prepared by a Professional Engineer (PE). This approval must be obtained before construction can begin. Following completion of improvements, the owner must also submit an application requesting a Letter of Map Change (LOMC) to FEMA.
- The Floodplain Administrator at SEMSWA can provide guidance on whether a CLOMR or LOMR is required.



SEMSWA

HOW TO REACH US

On the Web

Visit SEMSWA online at : www.semswa.org

Via Phone or Fax

Phone : 303.858.8844

Fax : 303.649.2149

Via Email

semswa@semswa.org

Our Office Location

76 Inverness Drive East, Suite A
Englewood, CO 80112



CONSTRUCTION REQUIREMENTS FOR WORK IN FLOODPLAINS

A POCKET GUIDE FOR CONTRACTORS, LANDSCAPE ARCHITECTS, ENGINEERS, AND REALTORS

Floodplain Education Series



Is my project in a FEMA regulated floodplain?

As a contractor or professional, it is your responsibility to know whether your project is located within a regulated **floodplain**. To determine if you are in the floodplain you can visit The Federal Emergency Management Agency's (FEMA) flood map website. This website provides Flood Insurance Rate Maps (**FIRMs**) for all National Flood Insurance Program (NFIP) communities throughout the Country. Access to these maps is available via the internet at:

<http://msc.fema.gov/>

Or these maps may be obtained by contacting the Floodplain Administrator at SEMSWA.

FIRMs show the boundaries of Special Flood Hazard Areas (SFHAs) within a community. SFHAs are flood zones identified according to their varying level of risk. Areas of high risk on riverine systems (rivers, streams, creeks, gulches, etc.) are summarized in the table below. In general, if your project is located in any "A" Zone, the guidelines of this pocket guide apply to you. If you are located in a shaded Zone "X" or a Zone "X", then only the standard local improvement guidelines, such as building permits, local HOA guidelines, etc. would apply to your improvements.

FLOOD HAZARD ZONES	
Zone	Description
A, AE, AH, AO, AR	Areas with a 1% annual chance of flooding or a 26% chance of flooding over the life of a 30-year mortgage. Insurance is required in these areas.
X	Areas outside the 1-percent annual chance floodplain, areas of sheet flow flooding where average depths are less than 1 foot, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.
Non-FEMA Regulated Floodplains	Sometimes the most up-to-date and relevant floodplain studies are not shown on the FIRM. For example, the Urban Drainage and Flood Control District produces Flood Hazard Area Delineations (FHADs) showing potential 100-year flooding. These maps are commonly used by the Floodplain Administrator to determine if property and/or structures are within the floodplain. The Floodplain Administrator regulates to these floodplains when they are available and are not shown on the FIRM. Consult with the SEMSWA Floodplain Administrator to determine if there is a Non-FEMA Regulated Floodplain in your project area. Insurance purchase is not required in these zones, but is highly recommended.

Floodplain Development Permit

A Floodplain Development Permit is required for any **development** proposed in the Floodplain. FEMA defines development as "any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment and materials". This also includes walls, sidewalks, trails, decks, patios, ponds, pools, and bridges. The Floodplain Development Permit is required prior to issuance of a building permit, issuance of a street cut or right-of-way use permit, issuance of a GESC permit, issuance of a public improvements permit, and any other development, use or change of the use of land located in the Floodplain. **All activities, regardless of impact, need to be permitted.** Even when it is apparent that there are no adverse impacts to the floodplain, a permit is required for administrative purposes to ensure that SEMSWA is aware of the activities within the floodplain and that they have been evaluated for compliance with SEMSWA's requirements. The following are common floodplain development activities that must be permitted:

- Floodplain modifications – including fringe filling, grading, channel improvements
- Floodway modifications – when approved in conformance with these criteria
- Stabilization improvements – drop structures, rip rap, bank protection
- Installation or maintenance of bridges, culverts, other conveyances
- Minor improvements (non-substantial) to structures within the floodplain
- Landscaping – including grading, clearing, re-vegetation, planting, retaining walls, bridges, stairs, etc.
- Trenching operations associated with utility construction or maintenance
- Installation and maintenance of storm sewer outfall structures
- Fencing, when approved in conformance with these criteria
- Trail or sidewalk construction or rehabilitation
- Construction and maintenance of master planned on-line detention or water quality facilities
- Installation and maintenance of park and recreation facilities

Grading, Erosion, and Sediment Control Permit (GESC)

For floodplain activities that involve grading or land disturbances, an approved GESC report and plan are required. SEMSWA, in partnership with Arapahoe County and the City of Centennial, require a GESC Permit prior to the start of the following land-disturbing activities:

- New development and redevelopment of all sites (regardless of size).
- Any land disturbance of 1.0 acre or more not otherwise exempt.
- Installation of underground utility lines for a new development exceeding one single family residence and appurtenant structures, prior to the start of over lot clearing and grading.
- New public and private roadway construction.
- Installation or maintenance of underground utility lines in excess of 1000 linear feet in length.
- Fill or excavations of 50 or more cubic yards of material.
- Any clearing, grubbing, grading, or filling operations within 100 feet of a drainageway/floodplain.
- Any clearing, grubbing, grading, or filling operations that has the potential to adversely impact drainage patterns or result in sedimentation of the storm sewer system or drainageway.
- Mining projects, even when subject to State mining permit.
- Drilling sites and operations not otherwise exempt.
- Any project that SEMSWA determines to have an adverse impact on the public right-of-way, public infrastructure, or adjacent property, with respect to grading, erosion and sediment control.

For projects less than 1-acre or installation of underground utility lines less than 1000 linear feet, a **Low-Impact GESC Permit** is required. In some cases, no GESC permit is required. The contractor must review the local GESC requirements with SEMSWA staff to determine if their project is below the threshold requiring the permit.

Additional Permits

In addition to FPDP and GESC permits, other permits may be required for work within the floodplain including:

1. **Building Permit** : Items requiring a building permit include:
 - New home construction and additions;
 - Basement finishes and remodels;
 - Decks;
 - Patio covers;
 - Detached garages, sheds, and agricultural buildings;
 - Attached garage additions;
 - Irrigation systems;
 - Fences;
 - Retaining walls over 4-feet high; and
 - Hot tubs or pools.
2. **Street Cut and Right-of-Way Use Permit** : For projects that include the use of, or construction within the County/City Right-of-Way.
3. **Public Improvement Permit** : For projects that include the installation or maintenance of improvements dedicated for public use or otherwise provides a public benefit.
4. **404 Permit** : For any work within a stream or drainageway, even if it is dry most of the year.
5. **Conditional Letter of Map Revision** : For any improvements that impact a FEMA regulated 100-year floodplain.
6. Compliance with the **Endangered Species Act** via the Fish and Wildlife Service.

Where can I find additional information?

Detailed floodplain regulations for SEMSWA, Arapahoe County and the City of Centennial can be found on SEMSWA's website by clicking on the Resources link. **At any time, you can contact SEMSWA staff for direction concerning your proposed improvements.**

Please contact SEMSWA for additional direction before planning any project in the floodplain.