



Maine Office of Dam Safety Fact Sheet #2:

Types of Dams

This fact sheet describes the types of dams commonly found in the State of Maine. The most common of which is the earthen embankment dam. These dams are usually accompanied by some form concrete, masonry, or wooden spillway. Other types of dams commonly found in Maine are stone wall dams, timber crib dams, and rubble dams. The least common types are concrete gravity and buttress dams.

Embankment Dams: A dam constructed of earth or rock fill that relies on its weight and various material characteristics to control seepage for its stability.

Earthfill Dam: A dam in which more than 50 percent of the volume consists of soil.

Homogeneous Earthfill Dam: A dam constructed of uniform soil material throughout.

Zoned Embankment Dam: A dam composed of zones of selected materials having different degrees of permeability. Used in most modern dams.

Rockfill Dam: A dam in which more than 50 percent of the volume consists of rock. Zoned construction is required with an impervious core or upstream blanket.

Timber Crib Dam: Generally, a dam built up of boxes, cribs, or crossed timbers filled with earth or rock and covered with timber planks.

Stone Wall Dam: A dam consisting of earth embankment within masonry rubble rock faces. The rock wall on the downstream face is usually vertical. Upstream rock walls are sometimes present and are generally vertical.

Gravity Dams: A dam constructed of concrete and/or masonry that relies on its weight for stability (Strictly speaking, an embankment dam is a gravity dam. The term, however, has evolved to apply primarily to masonry or concrete dams.)

Concrete Dam: A dam constructed mainly of cast in place concrete.

Masonry Dam: A dam constructed mainly of shaped stone, brick or concrete blocks that may or may not be joined by mortar.

Rubble Dam: A dam constructed of unshaped, coarse stone or fragments of stones not placed in courses that may or may not be joined by mortar.

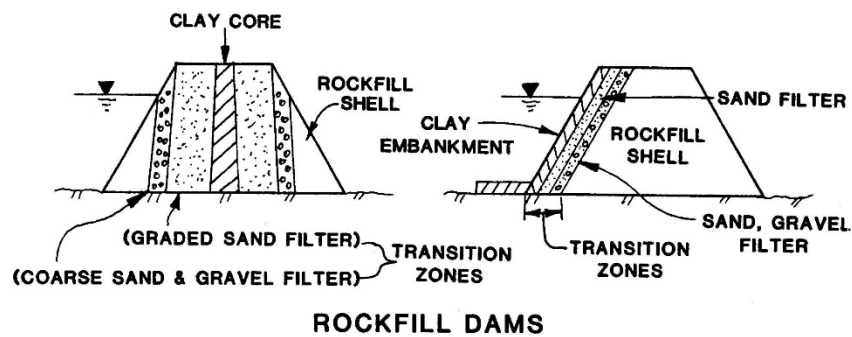
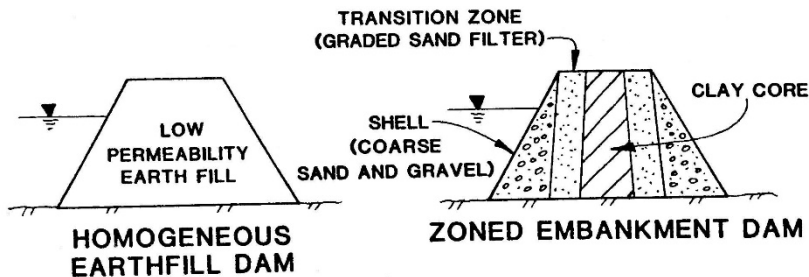
Buttress Dam: A dam consisting of a watertight upstream face, usually concrete, supported at intervals on the downstream side by a series of buttress walls perpendicular to the face. A buttress dam relies on the bracing action from the buttress for stability. There are three main types of buttress dams, these are; Ambursen (flat slab) dam, arch buttress dam, and the solid head buttress dam.



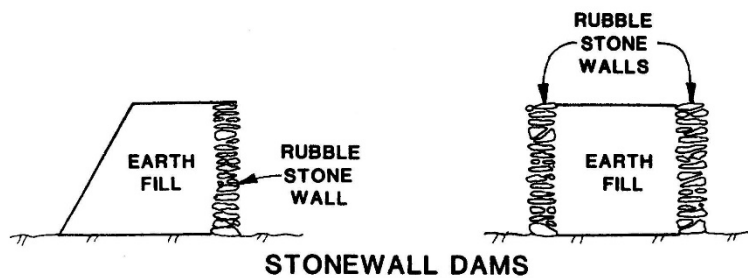
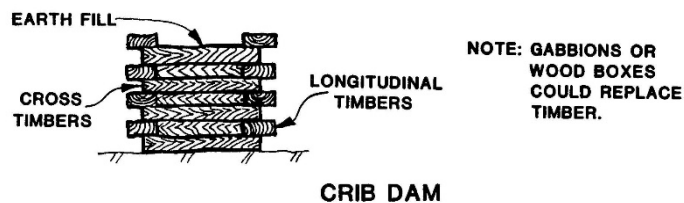
For more information relative to the design, construction, maintenance and operation of dams, please contact the Maine Office of Dam Safety at the Maine Emergency management Agency at (207) 624-4400. General information is available at <https://www.maine.gov/mema/hazards/dam-safety>. You may also visit our office at 45 Commerce Drive, Augusta ME.

This fact sheet is accurate as of April 24, 2023. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.

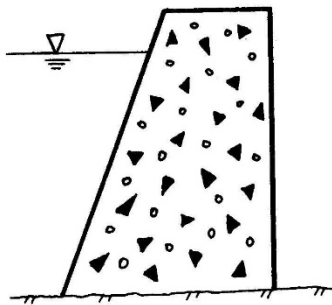
Embankment Dams



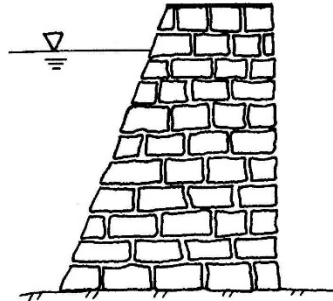
ROCKFILL DAMS



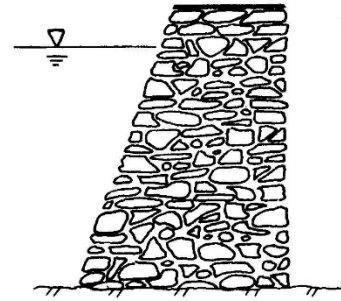
Gravity & Buttress Dams



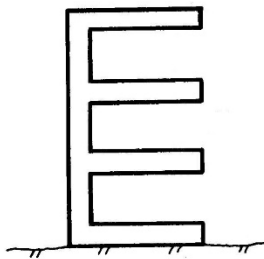
CONCRETE



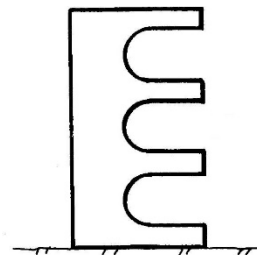
**MASONRY
STONE
BRICK
BLOCK**



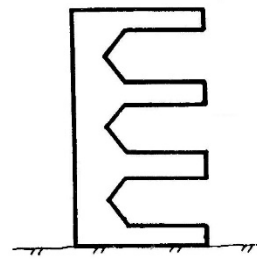
RUBBLE STONE



**AMBURSEN DAM
(TYPICAL PLAN)**

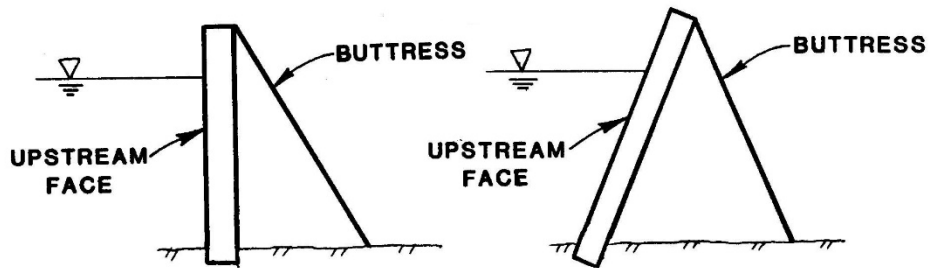


**ARCH
BUTTRESS DAM
(TYPICAL PLAN)**



**SOLID HEAD
BUTTRESS DAM
(TYPICAL PLAN)**

BUTTRESS DAMS



**BUTTRESS DAMS
TYPICAL SECTIONS**