Do's and Don't of Pond Construction

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Topics

- What to do before you construct
- Types of Ponds and Dams
  - Non-Jurisdictional Sized Dam
  - Jurisdictional Sized Dam
  - Well Ponds
  - Livestock Water Tanks
- Responsibility and Liability
- Important Statutes
- Administration of Water Stored in Ponds

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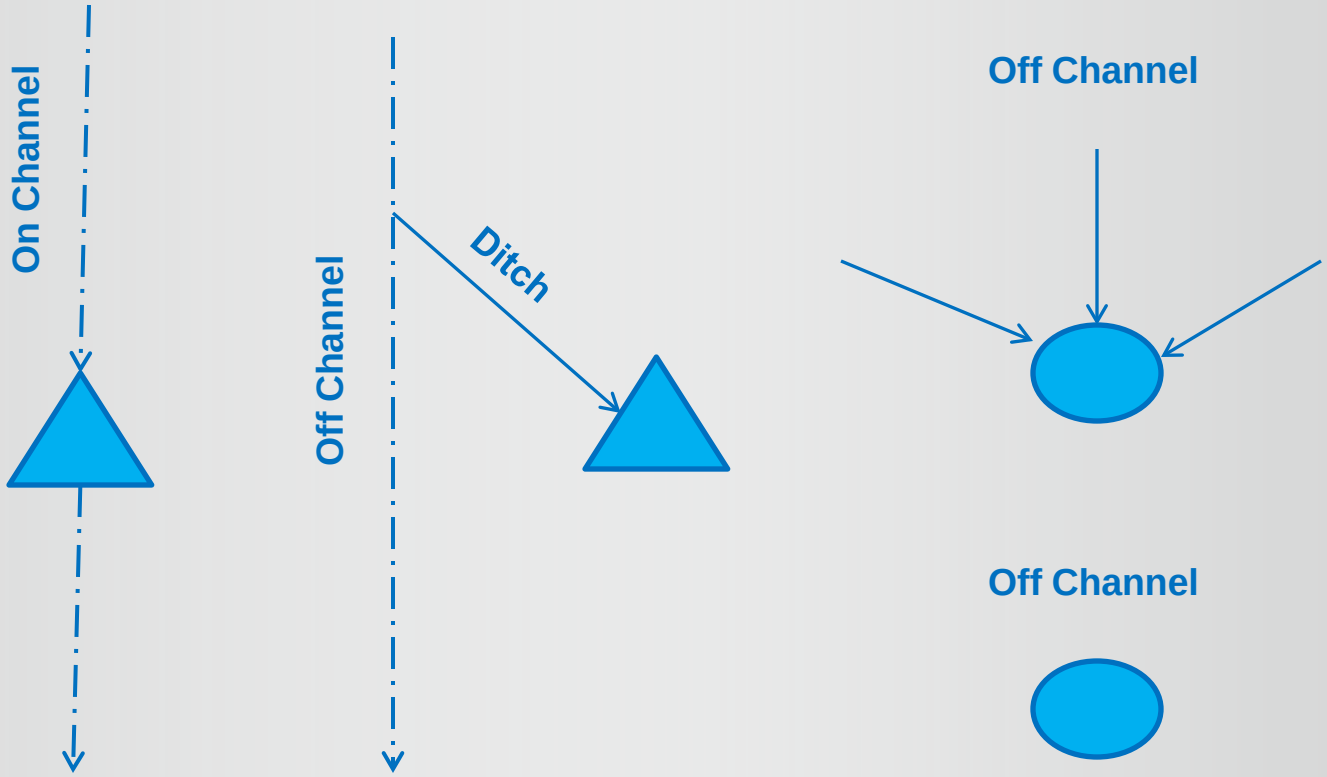
What to do before you Construct

Determine whether the pond is going to be located on or off channel?



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What to do before you Construct

On Channel

Are you constructing a dam, expanding the width of the channel, or digging into the channel when dry to expose water

Constructing a Dam

A low-level outlet must be installed (or other means of bypassing ALL out-of-priority diversions)

Expanding the Width of the Channel

In essence ground water has been exposed and a well permit is required

Digging in a Dry Channel

In essence ground water has been exposed and a well permit is required

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What to do before you Construct

Off Channel

Are you constructing a dam, digging a hole, or both?

Constructing a Dam Only

How is the pond being filled, i.e. what is its source of water? If a ditch, is the ditch decreed to fill the pond or is it a new use under the ditch?

Does the ditch have an operable headgate?

If ditch is used for other purposes than to fill pond, is there a means of bypassing water around the pond in the event of administration and the right to fill the pond is out of priority but other uses on the ditch are not?

What to do before you Construct

Off Channel

Digging a Hole Only

Is there a potential for ground water to be exposed? If yes, a well permit must be obtain prior to construction.

Constructing a Dam and Digging a Hole

Same questions need to be ask as when just constructing a dam

Same questions need to be ask as when just digging a hole

- If you start digging a hole and it begins to fill with water, STOP digging!

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Type of Ponds and Dams

Non-Jurisdictional

A non-jurisdictional water impoundment is a pond created behind a dam with an embankment height of 10-feet or less, OR has a capacity of less than 100 acre-feet, OR creates a pond with a surface area less than 20 acres

The dam height is measured as the vertical distance from the elevation of the lowest point of the natural surface of the ground where that point occurs along the longitudinal centerline of the dam up to the crest of the emergency spillway of the dam

Per statutes (§37-87-125), A notice of intent to construct a non-jurisdictional water impoundment must be submitted to and approved by the Division of Water Resources (the Division Office) 45 days prior to construction of any dam embankment of such size

Application Fee = $0

Type of Ponds and Dams

Jurisdictional

A "Jurisdictional Size Dam" is a dam creating a reservoir with a capacity of more than 100 acre-feet, OR creates a reservoir with a surface area in excess of 20 acres at the high-water line, OR exceeds 10 feet in height measured vertically from the elevation of the lowest point of the natural surface of the ground where that point occurs along the longitudinal centerline of the dam up to the crest of the emergency spillway of the dam. (CRS §37-87-105)

A dam of this size is required to have approval of construction plans and specifications and a Permit for Dam Construction from the State Engineer prior to commencing construction. (CRS §37-87-105)

Fee for review of plans: $3/$1,000 of Engineering and Construction Cost with a minimum fee of $100 and a maximum fee of $3,000

Type of Ponds and Dams

Jurisdictional

IMPORTANT

- If you own and/or operate a jurisdictional dam, DO NOT make any modifications or repairs to the dam or outlet structure without first notifying our office, i.e. Dana Miller – Dam Safety Engineer.
- DO NOT think you can construct a dam or modify a dam and then ask for forgiveness and get it approved after the fact.

Doing either one of these things can cost you more money and a lot of headache in the long run.

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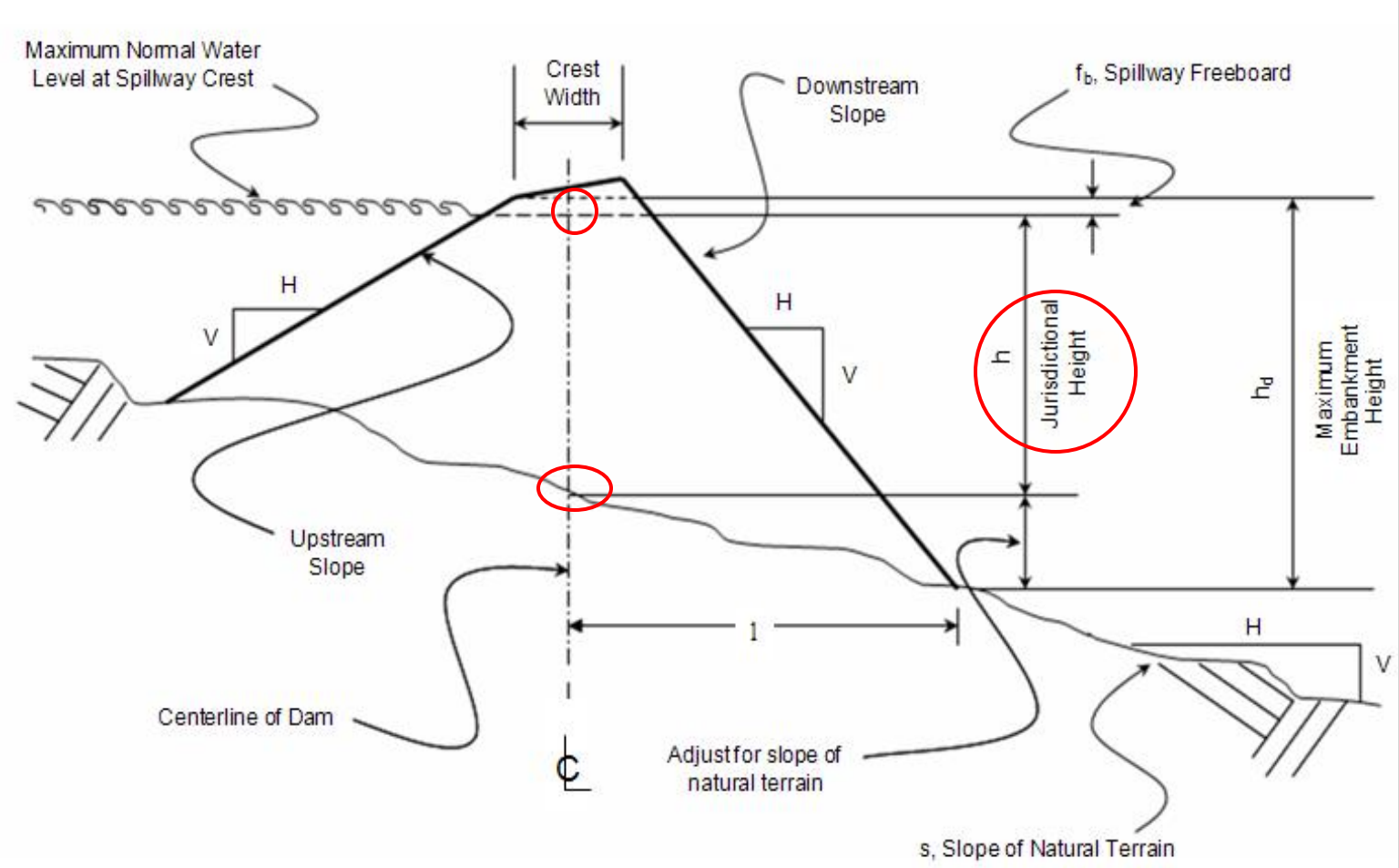
Jurisdictional Height



Determination of Dam Vertical Height at the Maximum Cross Section

Jurisdictional Size > 10 feet, 100 acre-ft OR 20 surface acres

Type of Ponds and Dams

Well Pond

Is a pond that intercepts ground water

A well permit issued pursuant Section §37-90-137(2) must be obtained prior to the construction of a well pond

If a well permit is not obtained, the pond must be:

- Backfilled to a depth of at least 2-feet above the normal ground water line OR
- The pond must be lined in accordance with the State Engineer's guidelines dated August 1999

Type of Ponds and Dams

Well Pond, continued

- Well permit applications are to be submitted to the State Engineer's Office
- If the well pond is located in an over-appropriated basin, such as the Elk River basin or the Yampa River basin upstream of the City of Steamboat Springs, an augmentation plan must be in place before the State Engineer's Office can issue a permit
- The augmentation plan must be designed to replace all depletions from the well pond including evaporation
- Application Fee = $100

Piece of Advice

TAKE PICTURES

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Sandhill Crane Pond

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Type of Ponds and Dams

Livestock Water Tanks

Are reservoirs created by dams:

- Located on watercourses that are normally dry (dry 80% of the year)
- Having a capacity not exceeding 10 AF
- Having a vertical height not exceeding 15 feet from the bottom of the channel to the top of the spillway
- Are used for livestock watering purposes only

Applications for approval of the construction of such dams must be submitted to and approved by the Division Engineer's Office prior to construction

Application Fee = $15

Livestock water tanks are governed by Title 35, Article 49 of the Colorado Revised Statutes

Dam Owner Responsibility & Liability

There are *risks* associated with owning and operating dams.

Per CRS § 37-87-104:

"No entity or person who owns a water storage reservoir shall be held liable for any damage…

…UNLESS SUCH FAILURE HAS BEEN CAUSED BY NEGLIGENCE."

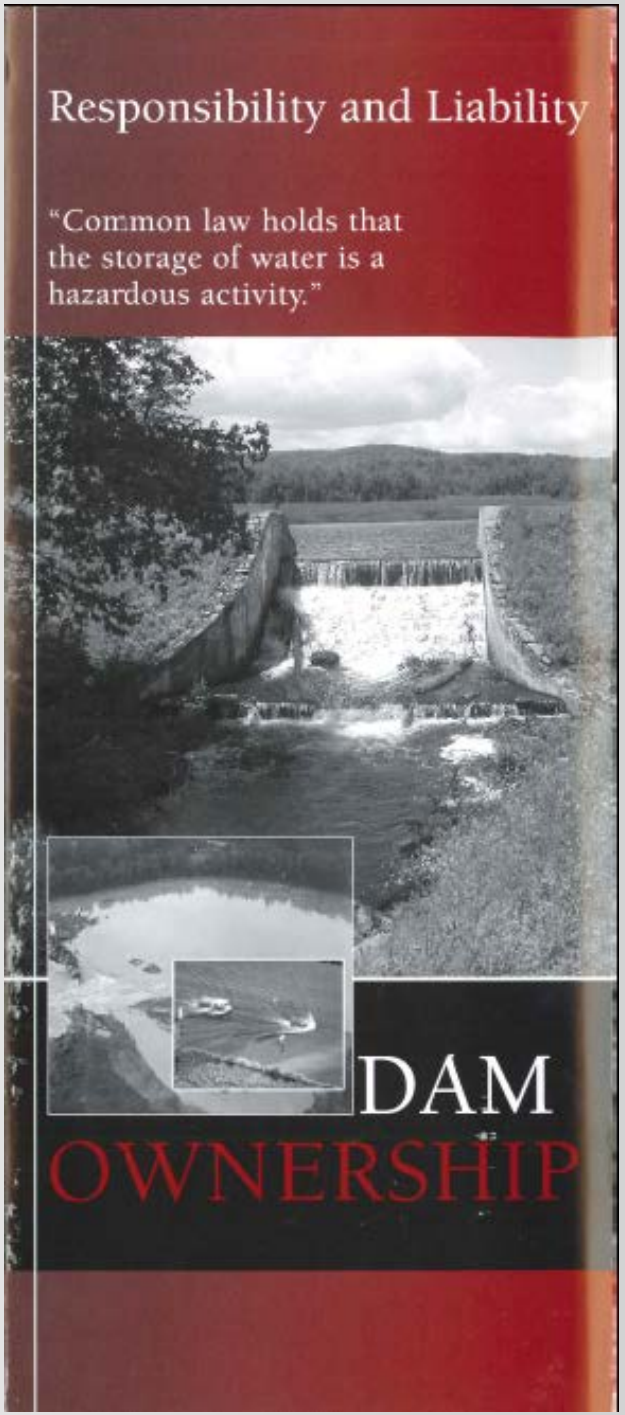
In the event of failure, it is incumbent upon the owner to show they were not negligent

Example of negligence would be allowing debris to collect in a spillway

Dam Owner Responsibility & Liability

"Common law holds that the storage of water is a hazardous activity."

The responsibility for maintaining a safe dam rests with the owner. Maintaining a safe dam is key to preventing failure and limiting the liability that an owner could face.



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Important Statutes

- The owner of a reservoir shall notify the Division Engineer when the release of stored water from said reservoir is going to be made, the rate at which such water will be released, and the structure (ditch, pipeline, etc) to which the water will be conveyed. (CRS §37-87-103)
- If any reservoir is constructed without the notice as required in §37-87-125 (non-jurisdictional dams), the state engineer may prohibit the storage of water in such reservoir or direct the withdrawal of water from such reservoir.
- Per CRS §37-92-502(3), each division engineer shall order the release from storage of any water he/she finds to have been illegally or improperly stored and shall make such orders as are necessary to insure that such released waters are delivered to those owners or users of water rights who are entitled to the same and to insure that the release will not cause damage.

Important Statutes

- Per CRS §37-92-502(7), the state engineer, division engineer and their duly authorized assistants have the power and duty to issues orders so that the streams of the state may be kept clear of unnecessary dams or other obstructions which may restrict or impeded the flow of water to the water users of the state.

Administration of Water Stored in Ponds

Ponds do have a depletive effect

The amount of evaporation that occurs annually in the area is 40 inches per year with approximately 27 inches (2.25 feet) of the evaporation occurring between May 1 and September 30

Number of undecreed/unrecognized ponds in Elk River

Ability for augmentation water:

- Yampa above Steamboat
- Elk River

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Administration of Water Stored in Ponds

If a pond is on-channel, the dam must have a low-level outlet

Without such outlet, ponds will be required to pump out water with a 1 year grace period.

If off-channel, pond must have capability to shut off flow into the pond

Without augmentation plan, during a call water will be diverted out of the pond according to the evaporation rate.

Augmentation ponds must have staff gages. Accuracy otherwise?

For ponds to get credit for anything other use than “evap”; pump, ditch, must have a measuring device

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Construction and Maintenance of Ponds on USFS Property

Maintenance of Existing Ponds

- Contact USFS before maintenance begins
- USFS will ensure it is considered routine maintenance in the authorization of the pond
- USFS will want to verify that no other permits are necessary

New Ponds

- Contact USFS for authorization
- Authorization may be possible through an existing permit
- If there is no authorization in place, an application must be submitted to USFS

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Construction and Maintenance of Ponds on USFS Property

New Ponds, cont.

Proponent will have to ensure appropriate water rights are in place

If the pond and use of water will be on USFS property, USFS should apply for water right

If the pond is on USFS property and use will be on proponent's property, proponent should apply for the water right