POND CONSTRUCTION
and
TAX CREDITS

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USDA
Natural Resources Conservation Service
POND CONSTRUCTION

- TWO TYPES OF PONDS
  - Embankment (Dam Type)
    ✓ An earthen structure placed between two hills to back up water in the valley.
    ✓ The most economical to construct for the size.
  - Excavated (Dug Type)
    ✓ Normally built in flat areas such as wetlands where the water table is within 6” to 1’ of the ground surface.
    ✓ Soil removed, void fills with water forming the pond.
POND CONSTRUCTION

PURPOSE

• Water Use May Affect Design Features
  ✓ Livestock Water – pond should be fenced so that livestock only have one location to access the pond.
  ✓ Irrigation - should be large enough to meet the needs of the crop being irrigated.
  ✓ Aesthetics – should have irregular shaped shoreline.
PURPOSE

✓ Fish and Recreation – Mr. Whetstone will cover this area thoroughly.

✓ Wildlife - Depending on the type of wildlife a water control structure will be necessary so that the water level can be raised and lowered as needed.

✓ Fire Protection – A dependable water supply and enough depth for the installation of a dry hydrant.
SELECTING THE SITE

➢ SIZE OF POND

• The site/topography is going to determine the size. A 5 Ac pond will not fit on a 1 ac site.
• The objective is to achieve the largest amount of storage with the least amount of earth fill.
• 1 acre or larger for bream and bass.
• Smaller ponds will support bream and bass with limited fishing.
SELECTING THE SITE

➢ RELIABLE WATER SUPPLY
   • Pond should have sufficient springs or watershed to maintain an adequate water depth.
   • A watershed is the land surface that drains into the pond.
   • In our area of the country the watershed to pond ratio should be around 10 or 12 :1
SELECTING THE SITE

➢ WATER DEPTH

• The depth should be enough to allow for water lost due to evaporation or seepage.
• 5 to 6 feet is generally adequate for ponds with good flowing springs.
• 7 to 8 feet is preferred for ponds that rely solely on runoff water from the watershed.
SELECTING THE SITE

SUITEABLE SOILS

• Soil should have ability to hold water.
• Soil should be impervious and thick enough to prevent seepage.
• Clays, silty clays and sandy clays with enough plasticity are excellent for this purpose.
POND PERMITTING

- Permits required if:
  - Meets criteria in the Dam Safety Act (DHEC)
    - Dam exceeds 25 FEET HIGH
    - Dam will impound MORE THAN 50 acre feet.
    - Dam will present a hazard to loss of life in case of failure.
  - If Wetlands are Involved:
    - US Army Corps of Engineers, Biologist, Colt Bowles will cover this area.
  - Utilities
    - Power, Telephone and Gas Lines within the location of the pond may require a permit from the appropriate utility company.
POND DESIGN FEATURES

THE CORE OR CENTER DITCH

- The most critical element besides water.
  - An impervious layer of soil material normally located in the center of the dam.
  - The core should tie into an impervious layer of soil below the surface and extend up through the dam to well above the normal waterline.
  - Make sure there is sufficient amounts of suitable soil material to use for backfill.
POND DESIGN FEATURES

- **TOP WIDTH**
  - Should be at least 10 feet wide to prevent serious damage from burrowing animals.
  - If used for an access road or driveway the width should be increased to 12 to 16 feet.

- **SIDE SLOPES**
  - Should be at least 2.5 to 1 front and back.
  - A flatter back slope may be desired for ease in mowing vegetation.
POND DESIGN FEATURES

➢ PRINCIPAL SPILLWAY

• A pipe installed through the dam designed to handle the normal flow of water.
• The pipe also maintains the normal pool of water at a constant level.
• The pipe can be used to lower the water level if shoreline maintenance becomes necessary.
• The pipe can also be used to drain the pond should the need for restocking fish arise.
POND DESIGN FEATURES

- **EMERGENCY SPILLWAY**
  - Designed to pass water safely around one end of the dam or the other during a major rainfall event.
  - Width and depth is determined by the size of watershed and size of pond or storage capabilities.
DEEPEN EDGES

• The shoreline should have a 3 : 1 slope. This will allow animals and small children to exit the pond if they fall in.
• The minimum water depth over the entire pond should be at least 3 feet. This depth and proper fertilization will cut down on aquatic weed growth.
POND DESIGN FEATURES

- **VEGETATION**
  - All areas disturbed during construction of the pond dam, emergency spillway and borrow areas not covered by water, should be planted and maintained in some type of permanent grass.
  - No trees and shrubs should be allowed to grow on the dam.
TAX CREDITS

SOUTH CAROLINA CODE OF LAWS

- Provides a state tax credit for construction, or restoration for certain purposes.
  - Irrigation, aquaculture, wildlife, water supply and sediment and erosion control
- You may claim 25 percent of all expenditures up to $2,500 for the tax year.
- Expenses exceeding $2,500 may be carried forward for credit against income taxes in the next 5 succeeding taxable years.
TAX CREDITS

• If Dam is Permitted
  ✓ Permit to Construct and Certificate of Completion should be used when filing tax return.

• If Dam is Exempt from Permitting
  ✓ Proof of Exemption form from SCDHEC Dam Safety Division will be needed when applying for tax credit.