

Help is Available

POND CONSTRUCTION—PLANNING CONSIDERATIONS

Technical Help Is Available

Your local Natural Resources Conservation Service (NRCS) office has experienced conservationists that can assist you with providing aerial photos, topographic maps and soil maps of your property. They can also help you develop a Conservation Plan to solve other problems you have identified on your farm or assist with technical assistance on wildlife and agricultural related issues.

NRCS will also assist you in determining if your proposed pond construction will conflict with any Farm Bill Benefits you may be currently receiving or wish to receive in the future.

There is no charge for our assistance. Simply call your local office at the number listed below to set up an appointment and we will come to your property or feel free to stop by the office during business hours.



Helping People Help the Land

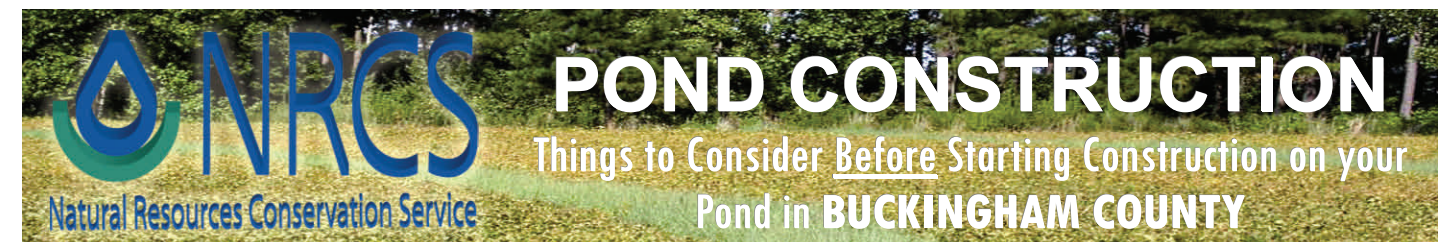
You may also be eligible to receive financial assistance, through a state or federal program on some conservation practices. **However, NRCS currently has no financial assistance available to assist you with your pond construction.** Your NRCS office will explain any programs that are available so you can make the best decision for your operation. All NRCS programs and services are voluntary.

For More Information Contact the:

Natural Resources Conservation Service
or the
Peter Franciso Soil & Water Conservation District
16842 W. James Anderson Hwy
Buckingham, VA 23921
Phone 434.983.4757 ext 3

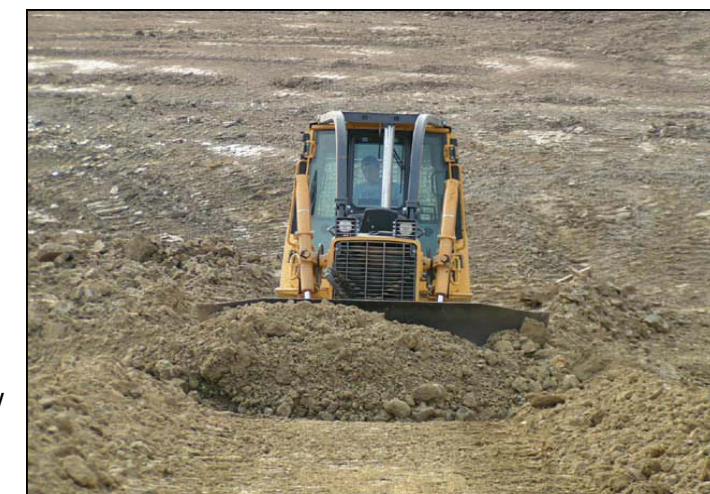
Office hours: M-F, 8:00 am to 4:30 pm (closed on federal holidays)

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Objectives:

- So you want to construct a pond on your property?
- Are you aware of **permits** required for the construction of your new pond?
- Who can I contact about these permits and explain them to me?
- Where can I obtain information on the soil types found on my property?
- If I'm a USDA Program Participant, how will my new pond affect my Conservation Program Contract or Farm Bill Benefits with USDA?



Ponds can be constructed for recreational or agricultural use

Purpose:

- Farm ponds are constructed for many purposes. Those designed for livestock watering, irrigation, and fire protection must be built near the use they serve and also contain adequate water. Ponds used for flood and erosion control frequently are located in dry valleys or depressions and have the capability for the storage of large quantities of water, especially during heavy rainfall and spring floods.
- Ponds constructed for fish and wildlife production or recreation are designed and constructed for (1) easy access, (2) adequate volume and, (3) water level manipulation. Farm ponds can be designed and built to serve multiple purposes with advanced planning.
- This fact sheet provides basic information and planning considerations to be performed **prior** to the construction of your multiple-use farm pond in Virginia.



Your pond will provide years of recreational or agricultural use to your property.

Costs for Pond Construction:

- How much does it cost to build a pond or lake?
- Here are some numbers you can use for your pond project. To move dirt to dig a pond, you can expect to pay roughly \$3.50 per cubic yard of material dug out of the pond. Figure \$2.50 - 4.00 per yard of material depending on the difficulty of excavation and costs specific to local market conditions.
- Very small ponds cost more because smaller equipment is required. Of course the volume of material to be moved will be entirely dictated by the design. Because of this, you can't estimate without knowledge of the specific project and site location characteristics.
- Consult the Yellow Pages in the phone book for local excavating contractors. They can also assist with the design and construction staking of your new pond. Their price is what you'll pay!

PLANNING CONSIDERATIONS

Below is a list of things you need to have completed **PRIOR** to the heavy equipment being mobilized to your property and “potential pond site”

1. SITE LOCATION:

- Site selection is extremely important.
- Consider the following site characteristics before you design and construct your pond: (1) topography, (2) water supply, and (3) soil type. If possible, consider more than one location and study each one to select the most practical, aesthetic, and economical site.

2. SOIL TYPES:

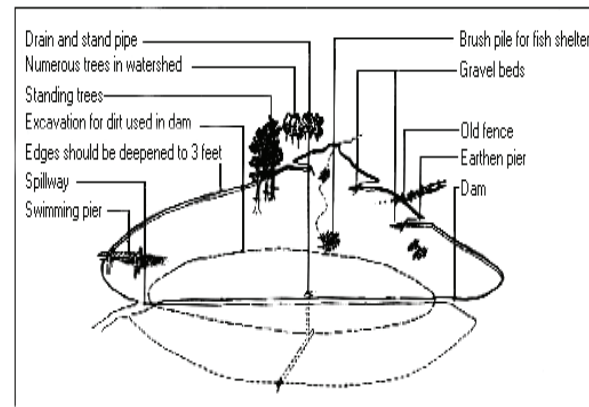
- Suitable soil is one of the primary factors in selecting a pond site. The soil should contain a layer of material that water will not seep through. Clays and silty clays are excellent for this purpose. Sandy clays are also usually satisfactory.
- To determine suitability, take soil borings at frequent intervals and have them analyzed. Failure to evaluate hidden soil strata properly could result in a pond that will not hold water.
- The local Natural Resources Conservation Service can provide you with Soil Maps and Inventories for your property.

3. TOPOGRAPHY:

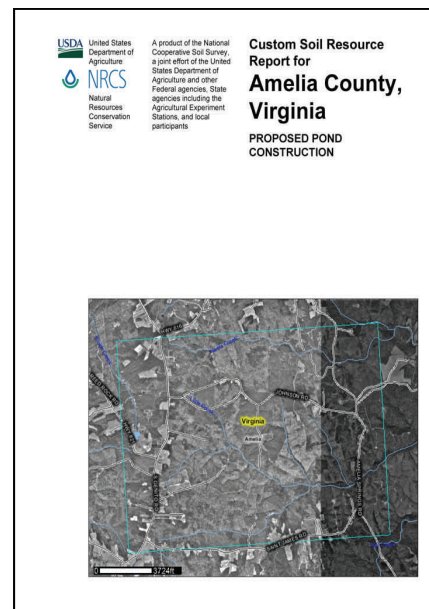
- Consider topography first because it directly affects construction costs and management. Locate the pond where an adequate volume of water can be impounded with the least amount of earthfill. A good site is usually one where a dam can be constructed across a narrow section of a steep valley, and where the slope of the valley floor permits a large area to be flooded.
- The local Natural Resources Conservation Service can provide you with Topographic Maps for your property. However a topographic survey of your proposed pond site is best for more accurate planning.

4. WATER SUPPLY:

- Water should be adequate, but not excessive, and may be provided by springs, wells, or surface runoff. For ponds where surface runoff is the main source of water, the contributing drainage area should be large enough to maintain a suitable water level during dry periods.
- However, the drainage area should not be so large that expensive overflow structures are needed and water exchange occurs too frequently. As a rule, a pond should have 5 to 10 acres of drainage area for each acre of impounded water.
- The amount of runoff that can be expected from a watershed depends on several factors: topography, soil type, and plant cover.



A typical layout of a properly constructed farm pond



Consult the local NRCS office for a soils map of your site location.



5. PERMITS: This is one of the most important things you must consider **PRIOR** to pond construction. You **MUST** contact the appropriate federal, state, and local agencies for potential required permits.

• LOCAL PERMITS:

- Buckingham County has no local policies concerning pond construction. The County relies on state and federal rules, regulations and laws to control this activity.

• STATE PERMITS:

- Have you consulted with the Virginia Department of Conservation and Recreation (DCR) Dam Safety Division? Depending on the size of your proposed pond, height of the proposed dam, capacity of the proposed water body or purpose of the proposed pond you may be subject to a permit from the DCR Dam Safety Division. No person or entity shall construct, begin to construct, alter or begin to alter an impounding structure until the VA Soil & Water Conservation Board has issued a construction permit. http://www.dcr.virginia.gov/dam_safety_and_floodplains/index.shtml
- Have you consulted with the Virginia Department of Environmental Quality (DEQ)? <http://www.deq.virginia.gov/permitexpert/>

• FEDERAL PERMITS:

- Have you consulted with the U.S. Army Corps of Engineers (USACE)? When you are conducting a land disturbing activity that is non-agricultural related the USACE is the first point of contact. Regardless of the intended use **ALL PONDS** fall under the jurisdiction of the USACE as well as other state and local agencies. The Norfolk District Regulatory Branch of the USACE issues permits under the authority of *Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899* for regulated activities proposed through the commonwealth of Virginia.
- Below are a few questions to think about prior to contacting the local USACE contact:
 1. Have I selected a proposed site for the pond?
 2. Do I have a design for the proposed pond?
 3. What is the height of my proposed pond dam?
 4. What are the proposed slopes on the upstream and downstream sides of my proposed dam?
 5. What is the width of the top of my proposed dam and will I be driving across the dam?
 6. Has the proposed site of the pond been staked out for construction?
 7. How much linear foot of stream will I be flooding? This is termed “back flood” and is determined by a measured distance from the upstream toe slope of the dam to the area that water is entering the pond.
 8. Will I be using a stream as a water source for my pond? If so what is the width and depth of that stream?
 9. Also, if using a stream as a water source, is it a perennial stream (i.e. it flows year round) or is it an intermittent stream (i.e. flows only during certain times of the year).
 10. Will I be using existing spring flow as a water source? If so, what is the extent of wetlands in the surrounding area of the springs and what is the square footage or acreage of these wetlands?

Who do I contact for my permits?

STATE PERMIT:

Dept. of Conservation & Recreation
Division of Dam Safety
203 Governor Street
Richmond, VA 23219
Phone 804.371.6095
Email - dam@dcr.virginia.gov

STATE PERMIT:

Jason Ericson
Dept of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060
Phone 804.527.5008
Fax 804.527.5106

FEDERAL PERMIT:

Carolyn Cannella
US Army Corps of Engineers Norfolk District
Western VA Regulatory Field Office
920 Gardens Blvd Suite 200
Charlottesville, VA 22901-7417
Phone: 434/607-7487
Email - Carolyn.m.cannella@usace.army.mil