# EMBANKMENT POND
# DESIGN AND CONSTRUCTION CHECKLISTS

## DESIGN

1. Hazard Classification

   - Determine the hazard classification of the pond. Evaluate the proposed impoundment for potential downstream hazards. Retain the rationale for assigning the hazard classification as a part of the design records for the embankment.
   - For inventory size dams a potential impact area study shall be made and distributed in accordance with NEM 520.28.
   - Based on the data obtained, make a permanent record of the hazard classification for the pond on form GA-ENG-23, Dam Hazard Classification Summary.
   - Make a re-evaluation of the hazard classification prior to construction for all ponds where construction begins one year or more after the initial evaluation was made. Record re-evaluation with the original classification determination.

2. Required permits obtained by the landowner:

   - If construction of the pond meets the criteria of Georgia Safe Dams Law, place the following statement on the plan: "Notification for request for classification by Georgia Department of Natural Resources, Environmental Protection Division, Safe Dams program for proposed pond that has an embankment 25 feet or more in height **or** has an impoundment capacity at maximum water storage elevation of 100 AC-FT or more. (Request must be submitted at least 30 days prior to commencement of construction)."
   - A statement that the plan (design) is void until re-evaluation of flood plain for safety hazards if construction begins one year after the date of the plan.
   - If the pond qualifies for an agricultural exemption under the Field Level Agreement between the U.S. Army Corps of Engineers and NRCS, document the exemption on the farm pond log. If the pond is not eligible for an exemption refer the landowner to the COE for permitting
   - Sediment and erosion control permits, if needed
   - Stream Buffer variances if needed
   - Threatened and Endangered Species clearance, if needed.

3. Compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06).

4. Design Survey. Obtain and record the following information in the engineering field book. This is the minimum design survey and construction layout required for a pond. For large ponds or special conditions, additional information may be needed

   - Location description and sketch.
   - Location and description of benchmark.
   - Profile on centerline of dam site.
   - Profile on centerline of emergency spillway including inlet section, level section, and outlet section when needed for spillway design.

- Profile on centerline of pipe spillway, if needed for design.
- Elevation of old channel bottom or natural low area at the downstream toe of the dam.
- Topographic information downstream of dam for use in design of stilling basin, if needed.
- Determination of pool areas and volumes.

5. Geologic Investigation. Record the following soils investigation information:
   - Record the foundation and cutoff trench borings.
   - Record of borrow and emergency spillway excavation borings.
6. Practice standard criteria related computations and analyses to develop plans and specifications
7. Construction Specifications
   a. Include construction specifications for all practice standards associated with the pond and modify to fit the conditions for this pond
   b. Were any additional specifications needed and included in the design
   c. Construction sequence, if required
8. Engineering Drawings. Use appropriate Georgia Standard Engineering Drawing for the pond being designed
9. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32).
10. Operation and Maintenance Plan.
11. Design modifications during installation as required

**INSTALLATION**

1. Pre Installation conference with landowner and contractor.
2. Verification that client has obtained required permits.
3. Staking and layout according to plans and specifications including applicable layout notes.
   - Embankment side slopes and top width.
   - Core trench depth and minimum cut slope.
   - Elevation and location of the pipe spillway, drain device, and seepage control measures (if required).
4. Installation inspection (according to inspection plan as appropriate).
   a. Actual materials used.
   b. Inspection records
5. Facilitate and implement required design modifications with landowner and original designer.
6. Advise landowner on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.
7. Certification that the installation process and materials meets design and permit requirements.
8. Erosion and sediment control BMPs in place and maintained.

## CONSTRUCTION CHECKOUT

1. Make and record the following construction checks:
    - Record profile and cross-section of foundation cutoff trench.
    - Profile along centerline of top of completed embankment.
    - Cross section of completed embankment to determine top width and side slopes.
    - Profile along centerline of constructed part of emergency spillway.
    - Cross section at crest of emergency spillway.
    - Crest of principal spillway.
    - Statement concerning adequacy of trash protection device for principal spillway or trickle tube.
    - Dimensions and kind of material used for principal spillway or trickle tube andother pipe conduits.
    - Data on seepage control measures. Include type, number and materials.
    - Comparison of actual pool area with areas used for design.
    - Statement concerning adequacy of embankment and spillway seeding.
2. Record the date and signature of person making construction check.
3. Responsible NRCS personnel and the construction contractor sign the appropriate space on the standard drawings certifying the practice was constructed according to the drawings.