

STATEMENT OF WORK
IRRIGATION RESERVOIR (436)
Kentucky

DESIGN

Deliverables:

1. Design documentation that will demonstrate that the criteria in NRCS practice standard have been met and are compatible with other planned and applied practices.
 - a. Practice purpose(s) as identified in the conservation plan
 - b. List of required permits to be obtained by the client
 - c. Compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06) It is the client's responsibility to contact Kentucky811, Call 811 Before You Dig. See www.kentucky811.org for more information.
 - d. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Geology and Soil Mechanics (NEM Subpart 531a)
 - ii. Hydrology/Hydraulics
 - iii. Structural including hazard class as appropriate
 - iv. Vegetation
 - v. Environmental Considerations
 - vi. Safety Considerations (NEM Part 503-Safety, Subpart A, 503.10 through 503.12)
2. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits...
3. 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).
4. Operation and Maintenance Plan
5. Certification that the design meets practice standard criteria and comply with applicable laws and regulations (NEM Subpart A, 505.03 (a) (3)).
6. Design modifications during installation as required.

INSTALLATION

Deliverables

1. Pre Installation conference with client and contractor.
 2. Verification that client has obtained required permits.
 3. Staking and layout according to plans and specifications including applicable layout notes.
 4. Installation inspection (according to inspection plan as appropriate).
 - a. Actual materials used (Part 512, Subchapter D Quality Assurance Activities, 512.33)
 - b. Inspection records
 5. Facilitate and implement required design modifications with client and original designer
 6. Advise client/NRCS 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.
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CHECK OUT

Deliverables

1. As-Built documentation.
 - a. Extent of practice units applied
 - b. Drawings
 - c. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM Subpart A, 505.03 (c) (1)).
3. Progress reporting.
4. Photo documentation recommended

SPECIAL REQUIREMENTS FOR COST SHARED PRACTICES

As noted in GM KY Supplement 450-407.12: Certifying Performance for Cost Sharing (June 2008)

- A. All practices will be located and identified using Global Positioning Systems (GPS) unit. (See GM KY 450-407.12 for additional guidance.)
- B. Practices receiving cost share assistance will be photo identified with no less than one before picture and no less than one after picture. (See GM KY 450-407.12 for additional guidance)

A quick link to the policy is: ftp://ftp-fc.sc.egov.usda.gov/KY/GM_Supplement_450.pdf

SUPPORTING DATA AND DOCUMENTATION

The following is a list of the minimum data and documentation to be recorded in the case file:

1. Location of the practice on the conservation map.
2. Assistance notes which include dates of site visits, name or initials of the person who made the visit, specifics as to alternatives discussed, decisions made, and by whom.

Field Data and Survey Notes

Record on survey notepaper, NRCS-ENG-28, ENG-29, or on other paper or media as appropriate.

1. Plan view sketch;
2. Bench mark location and description.
3. Profile and cross-section of the proposed embankment.
4. Profile along centerline of principal spillway.
5. Profile along centerline of auxiliary spillway.
6. Survey of pool area to develop topography and storage volumes.
7. Soils investigation logs and notes.
8. Special control or field features that must be considered in the design.

Design Data

Record on engineering forms or other media as appropriate. For guidance on the preparation of engineering plans see chapter 5 of the EFH, Part 650. The following is a list of the minimum required design data:

1. Locate practice on farm plan map in the case file;
2. Determine soil type, and any special restrictions.
3. Determine hazard class and list appropriate spillway design criteria, including map.
4. Determine peak runoff from the contributing area for the design storms selected, using EFH-2, TR-55, or other approved method.
5. Develop a stage-storage/discharge curve for the site.

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6. Determine the pipe spillway by storm routing using the procedure in Chapter 11, EFH; Chapter 6, TR-55; or TR-20.
7. Design auxiliary spillway using Chapter 11, EFH.
8. Drawings should show the following as a minimum: profile along centerline of dam; profile along centerline of emergency spillway; cross section through dam at principal spillway; cross section through auxiliary spillway; plan view; and construction details & notes and soil logs.
9. Compute earth fill (if needed).
10. Special design feature details; outfall stabilization, etc.; structural details with design loadings, if applicable, should be shown on the drawings.
11. Complete data required on KY-ENG-8.
12. Record seeding plan on drawings or the appropriate Conservation Cover Job Sheet.
13. A written Operation and Maintenance Plan.
14. Job Class based on policy Job Approval Chart and NEM.
15. Approval signature of someone with proper job approval authority.

Construction Check Data/As-built

Record on survey note paper, NRCS-ENG-28 and ENG-29. As-built survey data for irrigation reservoirs will be plotted in red. All construction inspection visits shall be recorded on the CPA-6 or appropriate documentation paper. The documentation shall include the date, who performed the inspection, specifics as to what was inspected, all alternatives discussed, and decisions made and by whom. The following is a list of the minimum data needed for As-Builts:

1. A profile of the top of the dam.
2. A cross-section of the auxiliary spillway at the control section.
3. A profile along the centerline of the auxiliary spillway.
4. A profile along the centerline of the principal spillway extending at least 100 feet downstream of the fill.
5. The elevation of the principal spillway crest.
6. The elevation of the principal spillway conduit invert (inlet and outlet).
7. The diameter, length, thickness and type of material for the riser.
8. The diameter, length, and type of material for the conduit.
9. The size and type of anti-vortex and trash rack device and its elevations in relation to the principal spillway crest.
10. The number, size and location of the antiseep collars.
11. The diameter and size of any low stage orifices or drain pipes.
12. Show the length, width, and depth of contours of the pool area so that design volume can be verified.
13. Notes and measurements to show that any special design features were met.
14. Statement on seeding and fencing.
15. Notes on site cleanup and disposal.
16. Someone with proper Job Approval Authority sign and date check notes to include statement that practice meets or exceeds plans and specifications.

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Irrigation Reservoir, 436
- NRCS National Engineering Manual (NEM).
- NRCS Technical Release 60, Earth Dams and Reservoirs
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook