Permit Number

**112-18**

PFBC DD-02
Rev. 2/05

**Commonwealth of Pennsylvania**
**Fish and Boat Commission - Department of Environmental Protection**

# PERMIT TO DRAW OFF WATER FROM IMPOUNDMENTS

Information submitted by the applicant has been reviewed by the Pennsylvania Fish and Boat Commission (PFBC) and Department of Environmental Protection - Division of Dam Safety (DEP), and upon approval, becomes a permit under Section 3506 of the Fish and Boat Code, Title 30 Pa. C. S. and Section 51.81 of the Fishing and Boating Regulations, Title 58, Pa. Code. The permit is valid only for the effective permit dates specified. Any changes from the permit application shown below have been made by reviewing agencies to improve safety, address site-specific issues, coordinate with other regulated

**Permittee:** *City of Reading*

**Street:** *503 N 6th Street*

**City:** *Reading* **State:** *PA* **Zip Code:** *19601*

**County:** *Berks* **Municipality:** *City of Reading*

**Impoundment name** *Bernharts Dam* **DEP ID #:** *06-001*

**Impoundment area:** *13 acres* **Maximum depth:** *30 feet*

**Receiving stream:** *UNT Schuylkill River*

**Approved depth of drawdown:** *30 feet below normal pool level*

**Effective permit dates:** *1/30/2019 to 12/31/2020*

This permit is subject to the specifications listed above and the conditions and requirements indicated below. Failure of the permittee or agents acting on behalf of the permittee to follow approved specifications, conditions and requirements immediately renders this permit null and void.

Standard Permit Conditions A through G are found on the attached page and apply to this permit unless specifically modified.

| *Agency* | *Reviewer* | *Title* | *Date* |
|---|---|---|---|
| **Department of Environmental Protection** | **Roger Adams** | **Chief, Division of Dam Safety** | *12/14/2018* |

**Permit conditions and requirements:**

*The permittee must follow DEP's best management practices for "Minimizing Sediment Pollution to Downstream Channels During Impoundment Dewatering."*
*During the refilling of the reservoir, the permittee shall allow a sufficient flow of water into the stream below the dam to support fish and other aquatic life and to preserve the water quality in the stream.*
*A plan of the proposed repairs must be submitted to the Division of Dam Safety for review and approval. Federal authorization may also be required. Work should not commence prior to receiving approval from Division of Dam Safety.*

| | | | | *Approve* | *Disapprove* |
|---|---|---|---|---|---|
| **Pennsylvania Fish and Boat Commission** | **Tom Shervinskie** | **Fisheries Biologist** | *1/31/2019* | **X** | |

**Permit conditions and requirements:**

PERMIT TO DRAW OFF WATER FROM IMPOUNDMENTS - STANDARD CONDITIONS

A. During the permit period, the permittee is authorized to take, catch, kill or possess fish from the waters drawn down, regardless of seasons, sizes, limits or manner of taking. Any disposal of fish must be done in conformance with appropriate state and local laws and regulations. Restocking of fish to another water requires owner permission. This condition may be modified at the discretion of the Fish and Boat Commission to accommodate concerns regarding fish, reptiles, amphibians or aquatic life specific to the water body affected by the drawdown.

B. This permit does not authorize withdrawal of water in any manner inconsistent with or in violation of existing laws governing downstream flooding.

C. Should this drawdown involve the disturbance of earth within or outside the impoundment, the disturbed sediments must be stabilized and placed in an area outside the floodway of any stream channel or any body of water, including lakes, ponds and reservoirs and wetlands. The floodway is marked on flood insurance maps; or is 50 feet from the top of the stream bank if there is no map. Additionally, this earth disturbance may require a plan or permit pursuant to the Clean Streams Law, Chapter 102 – Erosion Control Regulations. It is the permittee's responsibility to contact the local County Conservation District for any additional requirements.

D. If structural repairs or extensions of any kind are to be made to the dam, a separate permit may be required for this work from DEP-Division of Dam Safety, P. O. Box 8554, Harrisburg, PA 17105, before a draw down permit will be issued.

E. Except when the purpose of the permitted drawdown is to remove or eliminate the impoundment, the permittee shall refill the impoundment when the permit expires or the work is completed, whichever occurs first.

F. If work cannot be completed in the period approved, application for permit extension or a new permit must be made *at least 30 days prior to the permit expiration date.*

G. The impoundment owner or person in charge must, at all times, permit sufficient water to flow into the stream below so that fish and aquatic life will be protected.

# MINIMIZING SEDIMENT POLLUTION TO DOWNSTREAM CHANNELS DURING IMPOUNDMENT DEWATERING

## I. BREACHING DAMS

### A. Impoundment Area

1. Wherever possible, the impounded water should be lowered in **stages**.

   a. The initial discharge should be relatively free of sediment and, therefore, should not require filtering prior to entering the stream channel below.

   b. As the water level approaches the level of accumulated sediment, the potential for re-suspending sediment increases. If possible, the rate of discharge should decrease as the water level decreases. IF DOWNSTREAM CONTROL MEASURES ARE USED, THEY SHOULD BE IN PLACE BEFORE THIS PHASE OF DEWATERING BEGINS.

2. Where feasible and practical, consideration should be given to excavating existing sediment deposition before drawdown begins or as drawdown progresses.

3. Areas exposed by the falling water levels should be **stabilized** as soon as possible following their exposure.

4. The stream through the impoundment area should be evaluated for stability. Consideration should be given to stabilizing the stream, if necessary, using natural stream design or other concepts.

5. Materials removed from the impoundment area should be taken to a waste disposal area having suitable control facilities in place (see Section D below). The erosion and sediment pollution control plan for the waste disposal area should be approved by the local **County Conservation District** prior to its implementation.

### B. Breaching Area

1. During the final stages of dewatering, the breaching area should be isolated from the upstream impoundment area by means of a **cofferdam** until the breaching is completed and stabilized. Upstream flow should be diverted around the work area by means of a **temporary bypass** channel or pipe during this stage.

2. Once the breaching area has been stabilized, the temporary bypass and cofferdam should be removed.

### C. Downstream Control Measures

1. If a secondary outlet channel exists (e.g. from the riser outlet to the main channel of an impoundment with a sluice type principal spillway) breaching should take place at a

location (or locations) that will allow temporary discharge into the secondary outlet channel and permanent discharge into the main channel.

a. **Rock Filters** may be installed in the outlet channel at locations above the point where it enters the main channel.

b. Since these filters must be constantly maintained throughout the project, they should be located where they will be **easily accessible**.

2. **Outlet Basins** may be used to collect sediment.

a. Rock filters may be installed across the outlet of the basin to filter water prior to discharge.

b. It is important to keep the outlet basin cleaned out and to maintain the rock filter since failure to do so could result in backing up of water into the breaching area.

D. Waste Disposal Areas

1. Materials removed from the impoundment area or breaching area, as well as sediment removed from control facilities should be taken to a disposal area with an E&S plan approved by the local Conservation District.

2. Waste material and control facilities should be kept outside of the floodplain and floodway. Waste material and control facilities should not be placed in wetlands.

3. Waste material that is at or near saturation should be placed behind an **earthen berm**. One or more rock filter outlets are recommended to allow dewatering of the material.

4. Upslope runoff should be diverted away from the waste disposal area wherever possible.

5. Wherever it is necessary to cross an existing stream channel (defined bed and bank) to access the waste or borrow area, a **temporary culvert pipe** should be provided. Only clean rock fill should be used to cover the pipe (not earthen materials). The approaches to the stream crossing should be stabilized with AASHTO #1 stone for at least 25' on both sides.

6. As portions of the waste reach final grade, they should be seeded and mulched. If this occurs during a non-germinating season, a mulch cover should be provided until the beginning of the next germinating season.

## II. TEMPORARY DRAWDOWN

A. Impoundment Area

1. Wherever possible, the impounded water should be lowered in **stages**.

a. The initial discharge should be relatively free of sediment and, therefore, should not require filtering prior to entering the stream channel below.

b. As the water level approaches the level of accumulated sediment, the potential for re-suspending sediment increases. If possible, the rate of discharge should decrease as the water level decreases. IF DOWNSTREAM CONTROL MEASURES ARE USED, THEY SHOULD BE IN PLACE BEFORE THIS PHASE OF DEWATERING BEGINS.

2. Where feasible and practical, consideration should be given to excavating existing sediment deposition before drawdown begins or as drawdown progresses.

3. Areas exposed by the falling water level need not be stabilized.

4. Materials removed from the impoundment area should be taken to a waste disposal area having suitable control facilities in place (see Section D below). The erosion and sediment pollution control plan for the waste disposal area should be approved by the local **County Conservation District** prior to its implementation.

B. Work Area

1. During the final stages of dewatering, the work area should be isolated from the upstream impoundment area by means of a **cofferdam** until the work is completed and stabilized. Upstream flow should be diverted around the work area by means of a **temporary bypass** channel or pipe during this stage.

2. Water accumulating in the work area should either be pumped from a **filtering device** similar to the " Sediment Storage Dewatering Device" (see Figure 1) or to a filter bag (see Figure 2) located outside the impoundment.

3. Once the repairs, etc. have been completed and the disturbed areas stabilized, the temporary bypass and cofferdam should be removed.

C. Downstream Control Measures

1. If a secondary outlet channel exists (e.g. from the riser outlet to the main channel of an impoundment with a sluice type principal spillway) breaching should take place at a location (or locations) that will allow temporary discharge into the secondary outlet channel and permanent discharge into the main channel.

   a. **Rock filters** may be installed in the outlet channel at locations above the point where it enters the main channel.

   b. Since these filters must be constantly maintained throughout the project, they should be located where they will be easily **accessible**.

2. **Outlet Basins** may be used to collect sediment.

   a. Rock filters may be installed across the outlet of the basin to filter water prior to discharge.

b. It is important to keep the outlet basin cleaned out and to maintain the rock filter since failure to do so could result in backing up of water into the breaching area.

D. Waste Disposal Areas

1. Materials removed from the impoundment area or breaching area, as well as sediment removed from control facilities should be taken to an approved (by the local Conservation District) disposal area.

2. Waste material and control facilities should be kept outside of the floodplain and floodway. Waste material and control facilities should not be placed in wetlands.

3. Waste material that is at or near saturation should be placed behind an **earthen berm.** One or more rock filter outlets are recommended to allow dewatering of the material.

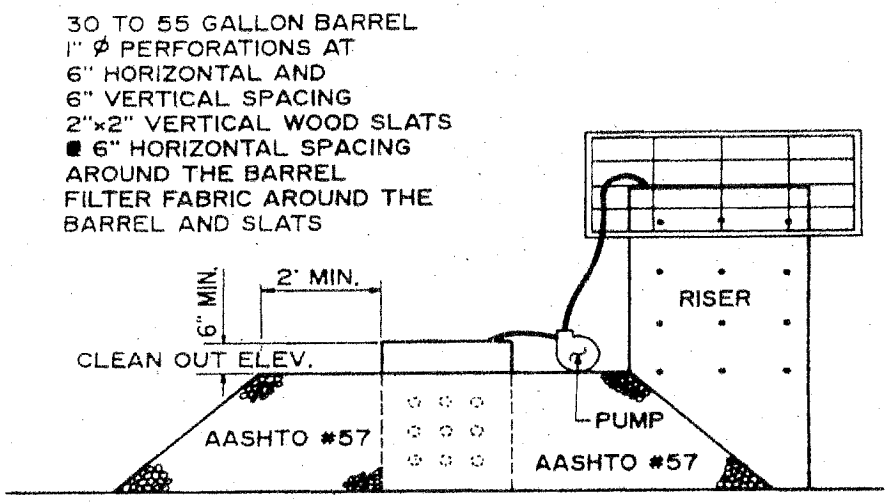
4. Upslope runoff should be diverted away from the waste disposal area wherever possible.

5. Wherever it is necessary to cross an existing stream channel (defined bed and bank) to access the waste or borrow area, a **temporary culvert pipe** should be provided. Only clean rock fill should be used to cover the pipe (not earthen materials). The approaches to the stream crossing should be stabilized with AASHTO #1 stone for at least 25' on both sides.

6. As portions of the waste reach final grade, they should be seeded and mulched. If this occurs during a non-germinating season, a mulch cover should be provided until the beginning of the next germinating season.

## FIGURE 1

### Sediment Storage Dewatering Device




## FIGURE 2

### Pumped Water Filter Bag Details