

**Planning for the Present** – Proactive response to minimize future liability for PL-566 Sponsors of small watershed dams.

**Attention Dam Owners** – Have you taken steps to ensure construction of homes will not occur in the flood pool area or below and in the breach inundation zone of a low or medium hazard class dam? Do you know if you have proper land rights to avoid legal liability from home construction in the flood pool? Do you know what hazard class your dam is currently? Do you know how many feet or even miles the breach wave can travel in the event your dam failed? Have you taken steps to ensure homes are not built downstream of your dam, in the breach inundation zone?

Many PL-566 flood control dams were built in rural areas 30-40 years ago without regard to future development. These areas were historically farmland subject to frequent flooding and planners gave little thought to future growth and development. Times have changed as more and more people accept a commute to work and choose to live in rural areas. Too often, homes are built overlooking the permanent pool areas of dams built for flood control or, downstream of the structure in the old floodplain.

In some instances, Sponsors do not own land rights to the top of the dam, and in most instances, Sponsors do not have control of land downstream of the dam. Once a house is built within the breach inundation zone, the state department of dam safety will more than likely reclassify dam hazard from low or medium to high and the Sponsors immediately face a liability. Why is that, and what do you know about hazard classification and its affect on what activity can occur downstream of the dam?

Dams are classified as: Class A – Low Hazard, structure failure would cause an insignificant amount of downstream damage; Class B – Moderate Hazard, structure failure may cause significant damage to property but no loss of human life; Class C – High Hazard, structure failure may cause loss of life, or serious damage to houses and structures downstream.

Downstream conditions are considered during planning of the project, thus hazard class is determined before the dam is built. Other parameters such as height of dam or amount of water impounded may require a higher hazard classification. The dam is then built according to the hazard class criteria. Once the dam is built according to its hazard classification, it is the Sponsors obligation to ensure conditions do not change downstream that may change the hazard classification.

Sponsors need to guard their dam as they do their house and other personal property. The needs and responsibilities of Sponsors have not changed, but the emphasis and attention to other details must be emphasized. For many years the main Sponsor activity has consisted of annual maintenance inspections and normal maintenance issues, such as debris removal and mowing.

Sponsors need to re-evaluate their attention to other less obvious but just as important details. The first thing is for the Sponsors to know what the hazard classification the structure was at the time it was built. This information can be obtained from the original project plan, the Operation

and Maintenance Agreement between the Sponsors and NRCS, the Office of Dam Safety, or other related project files located in the Sponsor or local NRCS office.

If your dam was originally designed and built as a high hazard dam, take a short sigh of relief since it is already constructed according to criteria that would allow for downstream construction of residences in the breach inundation zone. This dam is designed and built to accommodate most any activity immediately below the dam, including public highways, houses, neighborhoods, and even schools. However, you should have an emergency action plan that is complete, up to date, and reviewed annually.

If your dam was originally designed and built as a medium or low hazard dam, then be aware and be vigilant. Generally, no residences can be constructed below the dam or downstream within the breach inundation zone. Isolated roads and farm buildings can be located downstream of a medium (B) hazard dam but not below a low (A) hazard dam.

By now you may be asking, just what is the breach inundation zone. A computer model is used to simulate a sudden and catastrophic breach of the dam assuming it occurs on a sunny day (fails for no apparent reason, no one is aware that there is an impending disaster) and the dam pool is at the crest of the auxiliary spillway (the dam is full to the flood pool for whatever reason). The flood inundation wave is that water exiting the dam at dangerous speed; volume, and force such that any house in its path would be flooded or washed from its foundation. This is what poses the risk to loss of life from someone being swept away, or worse, trapped and drowned in his or her own home! As the wave travels down the valley, the height and velocity of the wave decreases until it no longer has the potential to flood homes.

The distance the breach wave travels is controlled by the width of the valley and the distance to the main floodplain channel. Some waves may travel a few hundred feet before they spread out or enter the main flood plain. Others may travel for up to two miles or more! Unfortunately, the actual breach inundation zone and corresponding flood elevations can only be determined by extensive analysis performed by a professional engineer. Many NRCS design files currently do not have breach inundation maps for low and medium hazard dams. So how do you get these maps? Sponsors have three options: 1) request any available maps from NRCS; 2) hire a professional engineer to develop the maps; or 3) request NRCS to develop the maps. The later option will generally yield a NRCS response that adequate staff time is simply not available to address the request at this time.

Therefore, what are Sponsors to do generally given limited funds and staff time? The following outline lists action ideas Sponsors can take that may put them on their way to at least minimizing future problems and liabilities.

- ❖ Know your land rights and their extent – review your files, or the courthouse records and locate the original land rights map and easement description. In many cases, these documents were not recorded at the courthouse, therefore they are unrecorded easements - a legal easement none-the-less, except that nobody knows about them beyond those that have been directly involved in the project. Most land rights secured for PL-566-assisted dams were for the flood pool, top of dam, or stated as “the elevation necessary to impound

floodwaters as described in the plan”. Some sponsors may have secured land rights downstream immediately below the dam.

- Land right boundaries of the pool area should be located on the land with permanent markers so that the boundary can be easily recognized. These markers are set at the elevation established in the easement for the flood pool or top of dam. Some State laws require that a registered land surveyor set easement boundaries, so consult legal council to ascertain your authority to set easement markers. NRCS will probably decline to provide this service due to these laws.
  - Each adjoining landowner should be notified in writing of the easement and provided a copy. Courthouse records should be reviewed annually and new owners duly notified. The seller of real estate and his/her agent are generally required by law to disclose all known property defects. If they are not aware of the easement, they cannot disclose it to the next buyer, who may intend to build a house right on the waters edge (permanent pool, not flood pool!). You might also notify area surveyors who do flood certification for banks, and the banks themselves.
  - If possible and if not previously recorded, the easement should be recorded at the courthouse and each affected deed should reference the easement. This may not be possible in your state, so seek legal council and advice.
  - The easement should be made available to the tax appraisers’ office, the planning and zoning office, and the floodplain coordinator. You should request, in writing, that the easement boundary be delineated on the plat map.
  - If you have not already, you should educate your county commissioner, county judge executive, city mayor, etc as the importance of the dam, and the need to protect it from all encroachments. Relay the benefits the dam provides to the community, what could happen in the event the dam was removed, and how much it would cost to remediate an avoidable mistake (building a house in the wrong place).
- ❖ Inspect your dam yearly, but not just for the normal operation and maintenance items you have been dutifully inspecting for over the past several years.
- Look for “for sale” signs of parcels near the pool area and below the dam, extending down the valley. When a ”for sale” sign is noted, contact the landowner and ensure they have copy of land rights if above the pool area, and explain to them the consequences of building below the dam. Since you have little authority to keep someone from building a house below the dam if you do not have land rights, scare them! Tell them the truth: they are in harms way if the dam fails, they can be killed; if you are forced to take action, you will remove the dam and thus they will be in the flood plain; threaten to sue them; anything to stop them from building that house!
  - As was discussed earlier, the best course of action is to know the breach inundation zone. If a breach map is not available and the sponsors do not have the funds to hire a professional engineer, attempt the following:
    - Starting from the toe of the dam, try to buy as much of the downstream floodplain development rights as you can. This is cheap compared to having to condemn a house or two, or having to raise the dam to meet the new hazard classification. Alteration to the dam can cost \$300,000 or more, buying out a new house or two could cost \$60,000 to \$200,000 or more depending on your locale. Buying undeveloped land rights might be more in the neighborhood of \$1,000 to \$2,000

per acres. You can accumulate significant acreage for that price. Remember, you do not have to buy the land, just the development rights, or an easement. Better yet, see if the landowner will qualify for and enroll into the Wetland or Grassland Reserve Program where USDA will pay for a permanent easement that would prohibit home construction. You may also have a state or federal wetland mitigation-banking program that will pay a landowner for an easement and restore the land to wetland habitat.

- If you can, get the breach inundation zone (even estimated or potential) marked on a county tax plat or planning and zoning map as a hazard area. Just a red line outlining the valley downstream may dissuade a buyer, developer, or homebuilder. In addition, do not forget your local or state floodplain management agency. Recently, our state floodplain management agency issued a floodplain permit for a landowner to build a home downstream of a PL-566 dam. Three months later, the dam safety arm of the same agency issued a notice of violation to the dam owner!

Now at this point in this paper, you may be telling yourself that you have no funds to secure legal services, hire a surveyor, or buy development rights. I have outlined some things that Sponsors can do for little to no cost: inspection of your property, know your land rights, notify adjacent landowners, and notify the planning and zoning or tax office. Do these now, for the sake of the community. You may not be able to continue to hide behind the excuse that you have no money. I have heard this many times from Sponsors that still have tax authority but are afraid to tax. Do the math; prevention is cheaper than corrective action. Doing nothing can be very costly in the end! Since you cannot please all of the people all of the time, you are going to be unpopular either way, that is the cost of public service.

Some of you might be saying that some of the doom and gloom I have mentioned cannot or will not happen in your community. Many of the sponsors that are facing lawsuits, notice of violations or non-complaint dams thought that too. The key is to inspect your facility and evaluate your risk at least annually.

***The above is not legal advice in any way and the author has no legal experience nor represents the above information as legal advice.***

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