

# **Recommended Management Practices for**

## **Agricultural Irrigation Ponds**

**May 2017**

Agriculture is the largest contributor of any resource sector to the economy of Prince Edward Island. Rainfall patterns have changed in recent years and in some cases, some farmers are interested in irrigating crops to ensure yield and quality.

One potential method for obtaining water for irrigation is the use of dug ponds which collect rainfall, surface water, and snowmelt. These water levels are usually maintained throughout the growing season with the use of a well.

The practices listed below have been developed by staff of the Department of Agriculture and Fisheries and the Department of Communities, Land and Environment to provide a practical guide for irrigation pond construction. These practices serve to help the agricultural community continue to be environmentally and socially responsible and gain maximum return from their investment.

### **Planning**

- The construction plans, including Provincial Identification Number (PID#), for all new ponds should be discussed and examined by a Soil and Water Engineer with the Department of Agriculture and Fisheries.
- The Soil and Water Conservation Engineer should meet with the proponent on the property where the pond is to be constructed to examine the topography and natural features of the site.
- Ponds should be sited away from watercourses and wetlands, using existing mapping resources.
- If the existence or exact location on the property of watercourses or wetlands is unclear, then the Department of Communities, Land and Environment should be contacted to delineate the sensitive environmental feature.
- Ponds should be sited away from existing residential properties.
- If a well is used to fill or maintain a pond, then the well location must be identified to the Soil and Water Engineer.

## Construction

- Ponds must be built outside of the 15 m buffer zone of any existing watercourse or wetland (legal requirement).
- Any spoils from the pond excavation must also be kept out of the 15 m buffer zone.
- Ponds should be constructed with a properly sized overflow (assistance from Soil and Water Engineer) to prevent against possible overtopping and total structural failure of the pond.
- Ponds should be constructed with some type of fence or physical barrier, and/or signage around the perimeter of the pond, to decrease the possibility of accidental injury of people, livestock, or wildlife. Proponents and landowners should consult their insurance companies to ensure all liability issues are addressed.
- Ponds can be constructed to allow surface run off water to enter the pond, but the inlet must be constructed to prevent scouring (erosion of the disturbed soil).
- If berm height exceeds 10 ft. from the original grade, a geo-technical expert (assistance from Soil and Water Engineer/Structural Engineer) should be consulted to ensure the integrity of the pond walls.
- The pond design must not divert additional water onto adjacent properties.
- Care must be taken during any dewatering of ponds under construction, so that existing watercourses or wetlands are not impacted by silt laden water.
- Noise issues can be a concern if a pond is constructed in close proximity to existing residents. Every effort should be made to substitute electric pumps for diesel /PTO driven generators.
- All barren soil should be seeded and mulched as soon as possible to reduce erosion.

## Wells

- Existing wells already used for irrigation may be used to fill irrigation ponds.
- A new low capacity wells may be drilled and used to fill an irrigation pond.
- Producers may only use one well per property to fill an irrigation pond.
- Properties may not be subdivided to enable the use of more wells to fill an irrigation pond.
- Any well construction must be carried out by a licensed well drilling company.

### Communication

If it is necessary to construct an irrigation pond within 300 meters of existing residences, the proponent should make every effort to inform the residents of the work that is to be carried out. This communication should be carried out well in advance of construction. Communication may consist of a phone call, letter or personal conversation.