

## Water Issues

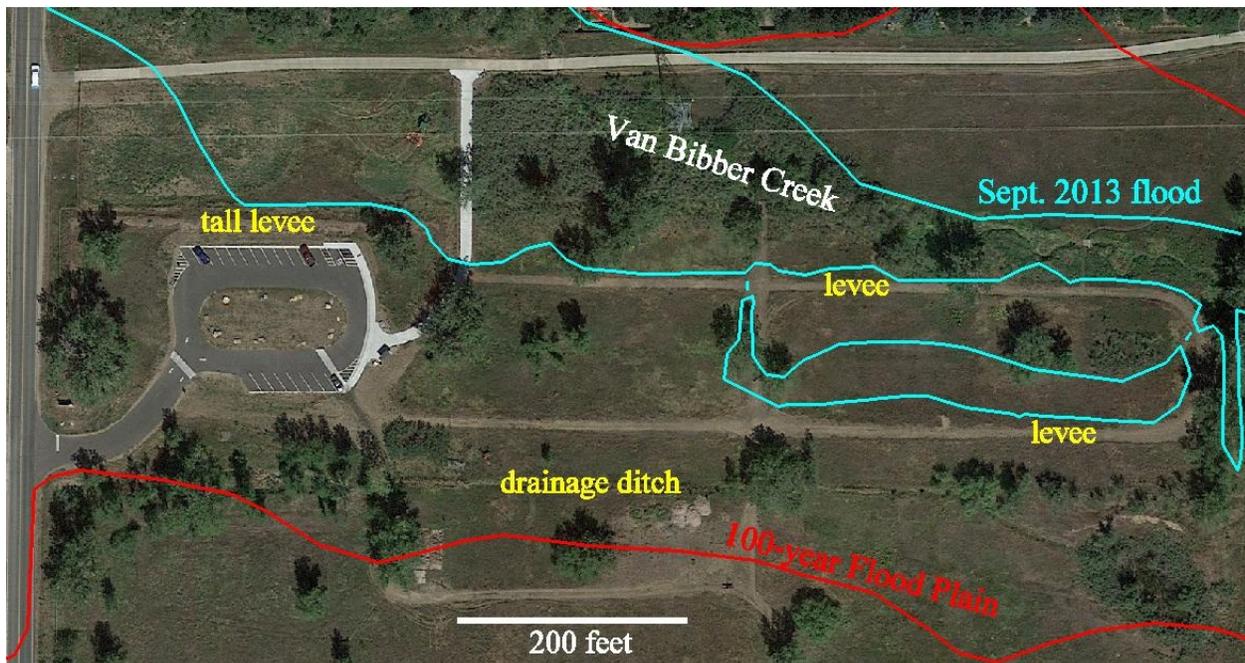
by Ed Holroyd, Ph.D.  
[eholroyd@juno.com](mailto:eholroyd@juno.com)

The Prospect Recreation and Parks District (<https://www.prospectdistrict.org>) has numerous properties for public enjoyment in the Fairmount and Applewood areas. An important acquisition was 18 acres of a former farm south of the corner of Indiana Street and the Van Bibber Open Space Park. Though the 5 acres adjacent to Indiana Street may be developed with various facilities, the interior 13 acres are under a Conservation Easement to be restored as much as possible to natural habitat and trails for public access. The property is now known as the Serene Conservancy. It is not yet officially open to the public, but since the Covid-19 restrictions access has not been prohibited.

I have been the volunteer caretaker of this property since about 2006, including documentation of wildlife use, creation of a partial plant species inventory, suppression of invasive plant species, mowing of pathways, and erection of some safety fences.

In 2019 Jeffco Open Space and Prospect created a new public parking lot in the northwest corner of the Serene Conservancy property, replacing the old one at the western end of the Van Bibber Open Space Park.

A comprehensive construction plan has been created for Prospect and approved by its board and is about to be implemented. I recently reviewed the plan and expressed a few concerns. Potentially useful features south of the parking lot include a sheltered picnic area and a playground. However, proposed changes in the conservation area are related to water issues.



The marked aerial photo (Google Earth, 2019) shows in red the edges of the official 100-year Flood Plain. The new parking lot and connection to the Van Bibber trail are at the left. North of the parking lot is a tall levee to protect former farm buildings from potential flooding. Elsewhere in gray are the mowed gravel paths that form three loops. During the September 2013 flood (cyan outline extents) those paths functioned as levees, limiting the southward extent of the flood. A drainage pipe under the northern path reversed flow and allowed flood water to enter the eastern loop. There it was confined again by the gravel path until it drained back into Van Bibber Creek through another drain pipe. Without the protection of the levees, the flood would have extended to at least the drainage ditch.

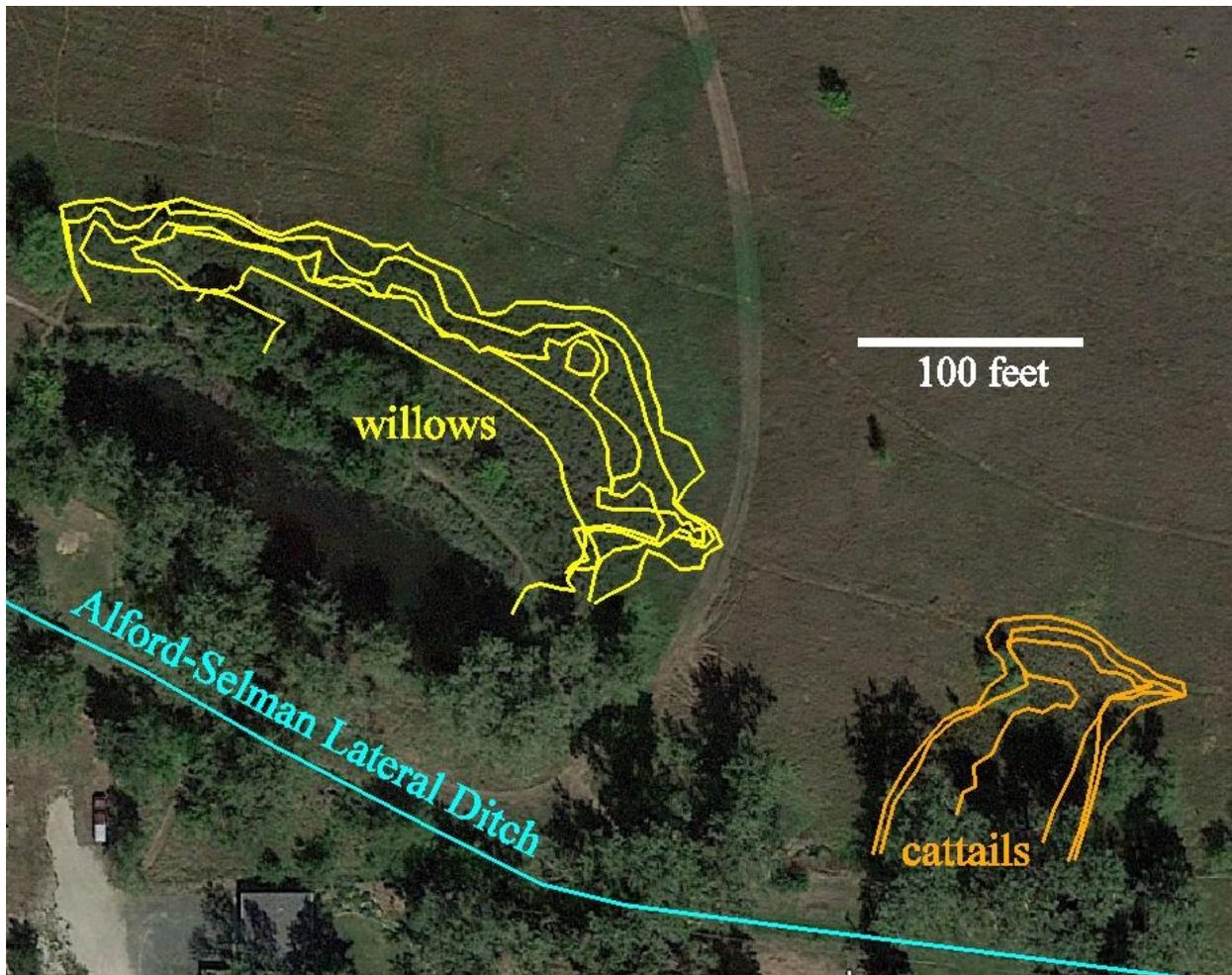
The gravel trails (levees) appear to be composed of boulders, gravel, and sand perhaps a foot thick, raised above the original surfaces. Their width is about twice what has been mowed. The trails therefore have a durable surface that is functioning well during this year's unofficial use by walkers and pets.

The Prospect construction plans specify the complete removal of those gravel trails. That will destroy all of the levee function. The plans show new trails of different design and position. The main trail, which loops into the southern highlands, is to have a crusher-fine surface of small gravel. A smaller loop in the lowlands is to have a grassy surface. There will be no protection against floods similar to that in 2013, which are smaller and more frequent than the supposed 100-year flood.

Another feature of the construction plans is to install an extensive irrigation system throughout the lowlands of the property. However, as clearly shown elsewhere in the Van Bibber Open Space Park, this valley does not need irrigation to maintain the natural habitats. The conservation area is not designated as lawn.

The declared purpose of the irrigation system is to preserve the water rights that were acquired from the former farm and supplemented by a more recent purchase. That water supply was inadequate for successful agriculture in this valley. Irrigation water arrives through a 2-inch pipe from the Alford-Selman Lateral Ditch, shown in the aerial image of 2019 of the southern (highland) parts of the Serene Conservancy area. The farmer tried to distribute the water across the sloping grassy field through the ditches shown as remnants in the photo. More recently the water has been released through seepage and three drains from the temporary pond. The brighter green grass in the photo shows the area of water benefit in 2019. The irrigated extent in 2020 is somewhat greater from an increased flow.

The main effect of the irrigation water has been the increased area of a tangle of willow shrubs, shown by the northward progression of the yellow boundary lines drawn from aerial images (including Google Earth series) of 1979, 1999, 2010, 2014, and 2019. There is no significant dwelling use of the willow thicket by wildlife larger than voles. Deer sometimes penetrate and bed down with great difficulty of passage. The willows provide protection for unwanted growth of invasive Yellow Toadflax, Canada Thistle, Great Mullein, and two species of Teasel. Otherwise the enhanced grass and willow growth is not being used by anything, thereby wasting the irrigation water.



Prospect's proposed irrigation network for the lowlands is a further waste of water that is not needed for the natural environment. Unlike a toilet that might be left to flush continuously 24/7 for months, much more irrigation water always flows through a full and larger 2 inch pipe from the Lateral Ditch.

Also illustrated in the aerial image of 2019 is a growing patch of cattails on the high ground at the south edge of the Serene Conservancy. Cattails are a natural response to abundant water availability. Only the years of 2010, 2014, and 2019 are illustrated with orange boundaries because of the difficulty of determining the extents apart from the trees and their shadows in earlier years. The patch is at least a couple of decades old. It is the result of seepage from the open Lateral Ditch, presumably through cracks in the clay soil and bedrock. That seepage is increasing, and the soggy area in 2020 extends beyond the illustrated boundaries. The Ditch company should insert a long pipe in the otherwise open ditch to stop the leakage of water, thereby increasing the flow downstream for better purposes.

It is my opinion that Prospect should abandon and sell the water rights of the Serene Conservancy property instead of wasting that valuable water by needless irrigation in both the highlands and lowlands. Without the excuse of water usage and with the preservation of limited

flood protection, all construction plans for the eastern and southern parts of the property should be abandoned. It appears that the present public users of that conservation area are content to have it remain as it is. It has already been nearly restored to natural habitat, and irrigation is not a natural component of the Van Bibber valley. In addition, restricting development to the picnic and playground areas will be a great savings of property tax money for people in the mil levy district of Prospect, now and in the future.

-----

Dr. Ed Holroyd retired as a scientist for the U.S. Bureau of Reclamation after 31 years of service. He retired as a graduate professor for the University of Denver after 17 years of instruction (years partly overlapping with USBR).



----- [for information, not print]

From : Jim Zimmerman <zimzimzim@aol.com>  
To : "eholroyd@juno.com" <eholroyd@juno.com>  
Subject : FW: Serene Conservancy  
Date : Fri, Sep 04, 2020 02:16 PM

Sorry. Used wrong address.

From: James Zimmerman  
Sent: Friday, September 4, 2020 12:41 PM  
To: edholroyd@juno.com  
Cc: Mike Hanson; Kevin Lyles  
Subject: Serene Conservancy

Ed:

Thank you for your extremely thorough review and analysis of the construction drawings for Serene Conservancy and accompanying suggestions. However, Prospect Rec & Park District will be unable to implement any of them. The design process for the park has been completed and the District is out of funds for further design work. We are now in the process of implementing the construction phase. I would note a couple of items though. The 18' survey discrepancy has been noted by the designers. Also, if we were to abandon our water rights to the property, under Colorado law we would lose them. So we need to use the Alford-Selman water. Finally, the Foundation Board, including Flora, was in general agreement that the design concept implemented as being in compliance with the conservation easement. Again thank for your review of the plans and your suggestions.

Jim Zimmerman

President Prospect Recreation and Park District.