Nebraska Excess Flow Variance Petition

DSS Id: 8
Water Rights Id: Pending
Permit Type: Temporary
Appropriator: Suburban Irrigation District
Point of Diversion: Suburban Diversion Dam
Annual Operating Plan Year: 2021
Address: PO Box 210 Hershey, NE 69143
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Submitted by Ann.Dimmitt Apr 26, 2021, 4:30:18 PM
Status

Filing Accepted by john.j.miller May 3, 2021, 11:27:11 AM
Petition Filing Fee Received & NeDNR Filing Review

In Progress
Variance Petition Approval

Permit Variance

Description of Proposed Project & Good Cause Narrative (Expected Benefits) *Narrative on the Benefits of The Irrigation Canal(s) Recharge Project in the Twin Platte NRD The water appropriations being sought is for a temporary right to provide broad benefits to many local, regional, and state interests. The objective of this project is to allow an opportunity in the non-irrigation season, when "excess" flows are available in the North and South Platte Rivers, to divert those excess flows into the existing irrigation canals for intentional ground water recharge. A temporary permit is being requested at this time over a permanent permit since the Twin Platte (TPNRD) and the Irrigation Districts are just beginning the process of building a working relationship with one another. A long-term goal of this project would be to build future plans on a more permanent basis. In the meantime, being approved for a temporary permit will allow the TPNRD the time to develop a relationship that can benefit the entire region in the long term and continue to collect data that supports the beliefs that were created during the Upper Platte River Recharge & Flood Mitigation Project of 2011. "Excess" flow can be identified as any flow that is not already being identified in the Platte River Recovery Implementation Agreement (PRIP) to which the State of Nebraska is a party, as well as any flow that is already appropriated for by the state. This temporary water right being sought after will be used for ground water recharge through the Western Irrigation Canal from the South Platte River and the Keith-Lincoln Irrigation Canal; Suburban Irrigation District; Paxton-Hershey Water Company; and the Platte Valley Irrigation District (North Platte Canal) all of which divert from the North Platte River. When excess water is available, water would be diverted by any or all of the above mentioned irrigation canals to flow through the canals and their laterals. This diversion could take place in the fall, winter, and spring months as long as ice is not a problem and weather allows. The diversions could occur for however long an excess flow event occurs and benefits could be gained, which could be in the spring prior to the irrigation canals normal diversion period, or it may be in the late fall and early winter after their diversion ceases if ice does not cause a problem. All of the diversions would be subject to the availability of excess flows and would occur only when excess flow events occur. Times when diversions would be not eligible would be when the irrigation district normally diverts for irrigation purposes in April through October. Memorandums of agreements have been signed between the above irrigation districts, the TPNRD, and the Nebraska Department of Natural Resources District (DNR) for a five year period of time with the ability to re-new for another five year period. The intent of this project is to apply for a temporary water appropriation on an annual basis when excess flows are available during the five year period of the signed agreement. During the fifth year of the project, the TPNRD would work with their partners of this project to evaluate the overall benefit of the project. Since the exact same project has already been performed in 2011 as a demonstration project, many of the unknowns have been worked through. Three of the canals have a spill where discharge measurements can be measured. For each spill measurement taken, the rate of water measured at the canal spill can be subtracted from the average daily diversion rate to determine the rate of canal loss. The loss is then divided by the average daily rate of diversion to calculate a daily loss as a proportion of the total volume of water diverted. For the other two canals, loss estimates can be calculated using the STELLA model by taking the total volume diverted and the modeled loss rate to determine the volume of water recharged. Benefits of this project would include increased stream flows during the summer months as a result of the ground water recharge and the underground returns from this project. The enhanced stream flows would help the TPNRD fulfill its obligation of getting back to 1997 levels of depletions in the Platte River required by LB 962 and as agreed to by the State of Nebraska for the PRIP. Increased flows in the river benefit threatened and endangered species and their habitats. Both the Basin-wide Integrated Management Plan (IMP) and the TPNRD's IMP allows for the Platte Basin NRDs to identify management options to achieve the goal of incrementally achieving and sustaining a fully appropriated status from the current over appropriated status. This project would also protect existing water users, local economies, environmental health, and recreation uses, while maintaining the economic and social aspects of life within the TPNRD through a healthy balance between the surface and ground water users of this area, and lastly would be in the public's best interest.*

The Proposed Project Must Meet at Least One of the Following Criteria (Check All That Apply)

- [x] The applicant has credible information that indicates there may be unappropriated water available at the proposed location at the time the depletion is likely to occur. (Upload analysis, PDF with descriptive name)

Use DNR Report | Upload Analysis

- ☐ The proposed project is for a non-consumptive use. (Upload description of use, PDF with descriptive name)
- ☐ The applicant has a credible proposal for replacing any consumptive use that will occur in a manner such that the project will not harm other users. (Upload offset plan, PDF with descriptive name)
- ☐ The project existed prior to any informal moratorium, formal moratorium or stay. (Upload proof, PDF with descriptive name)
- ☐ There is a public safety issue that must be addressed and the proposed project addresses that issue. (Upload explanation, PDF with descriptive name)
- ☐ The proposed use is a temporary use for public construction and the total volume requested is less than ten (10) acre-feet.

Upload Files to Support the Criteria Selected Above

Narrative on the Benefits 2013 to go along with variance applications.docx [https://dssdnr.nebraska.gov/filedownload/11]

Permit Application (*Alternate Form APA-001*)

What Is the Recharge Application Type? *Natural Flow*

Source Name (From Point of Diversion) *Suburban Canal from North Platte River*

Diversion Type (From Point of Diversion) *Headgate*

Diversion Structure Name (From Point of Diversion) *Suburban Diversion Dam*

Maximum Capacity of Canal or Delivery Works (CFS) (From Point of Diversion) *105*

Quantity Desired for Recharge Appropriation (CFS) *77.47*

What is the Minimum Operational Rate of the Canal (CFS) *20*

What is the Earliest Diversion Date? *04/01/2021*

Will This Project Be Constructed under a Federal Program, Receive Federal Funding, or Have Federal Planning Assistance? *No*

Do You Intend to Divert Water into Recharge Facilities Other than Your Canal? *No*