CEDAR-KNOX RURAL WATER PROJECT

LEWIS & CLARK NATURAL RESOURCES DISTRICT

CHEMICAL ADDITIVES

LIME (WATER SOFTENER)
FERRIC CHLORIDE (COAGULANT—REMOVES SILT)
POLYMER (COAGULANT AID)

TREATMENT PLANT

LEWIS & CLARK AGRD
STORAGE TANKS
MIOX (DISINFECTANT)
FLUORIDE (TEETH)
CLEARWELL
BACKWASH TANKS
FILTER
CONTROLS
LAB
CHEMICALS
CLARIFIER
SURGE TANK
CARBON BUILDING (REMOVES ORGANIC TASTE & ODOR)
CARBON DIOXIDE (CO2) (PH ADJUSTMENT)
POLYPHOSPHATE (CORROSION CONTROL)
CHLORINE DIOXIDE (THM PREVENTATIVE)

FARMS

Water Treatment Plant Operation:

Lake Water is pulled through screens to keep out fish, leaves, and organics matter, then pumped to the plant. Chlorine Dioxide and Carbon are added to adjust taste and odor. Lime and chemicals are added at the plant to remove silt and soften water, before it goes through a large sand filter. The cleaned water is then disinfected to kill bacteria or microorganisms before it is pumped out to storage tanks and pipelines to serve customers.
INSTALL SERVICE SADDLE AND INJECTION QUILL INTO 16" DIP DOWNSTREAM OF INTAKE SCREEN.

DRILL 1" ID POLY TUBING IN CARRIER PIPE FROM EXISTING INTAKE BUILDING TO INTAKE SCREEN.
CONNECT 1" POLY TUBING TO INJECTION QUILL.

APPROXIMATE LOCATION OF EXISTING INTAKE SCREEN

325' OF DIP (EXISTING)

LOCATION SHOWN FOR EXISTING RAW WATER PIPELINE AND INTAKE SCREEN WITHIN LEWIS & CLARK LAKE IS BASED ON AVAILABLE INFORMATION PROVIDED TO BARTLETT & WEST. LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, AS NEEDED, TO COMPLETE THE WORK. CONTRACTOR RESPONSIBLE FOR DETERMINING ANY SUBSURFACE INTERFERENCES PRIOR TO COMMENCING THE WORK.

EXISTING INTAKE BUILDING

DIRECTIONALLY DRILL 4" ID POLY CARRIER PIPE FROM SOUTHWEST CORNER OF EXISTING INTAKE BUILDING TO EXISTING INTAKE SCREEN IN LEWIS & CLARK LAKE.
Zebra Mussel Research Program

Zebra Mussel Chemical Control Guide

Susan L. Sprecher and Kurt D. Getsinger

January 2000

Approved for public release; distribution is unlimited.
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NEBRASKA REGULATORY OFFICE
8901 SOUTH 154TH STREET, SUITE 1
OMAHA, NEBRASKA 68138-3635


October 16, 2017

DEPARTMENT OF THE ARMY NATIONWIDE PERMIT VERIFICATION

Permittee: Mr. Chad Reifenrath
Cedar Knox Rural Water Project
608 North Robinson
Hartington, Nebraska 68739

Permit No: NWO-1600-00203-WEH-WEH

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions of Department of the Army (DA) Nationwide Permit (NWP) No. 7 found in the January 6, 2017, Federal Register (82 FR 1860), Issuance and Reissuance of Nationwide Permits. You must comply with all special, regional and general conditions attached herein.

Project Waterway and Location:
Lewis & Clark Lake
Section 19, Township 33 North, Range 3 West
42.825556°, -97.716886°
Knox County, Nebraska

Project Name: Cedar Knox Rural Water Intake Pipe Zebra Mussel Treatment Project