NEBRASKA
Good Life. Great Water.
DEPT. OF NATURAL RESOURCES

Turkey Creek at Furnas – Gosper County Line, Nebraska
00231700

LOCATION

Latitude and Longitude

40.35106, -99.76301

Road Log

On right bank 10 ft. downstream from bridge on County Road 726, 5 miles North and 1 mile East of Edison, NE.

Equipment Details

Recording Gage

Constant Flow Bubbler (CFB) and SatLink Data Logger (15 min interval).The instruments are housed in a 30"W x 24"D x 72"H stainless steel gage house. A solar panel with a 12-volt wet cell battery is used to power the instruments. The CFB is connected to the stream by a bubbler tube encased in 1¼" black PVC pipe buried in the ground. The muffled orifice is located along the right bank and directly below the downstream side of the bridge.

External Gage

A standard wire-weight gage is attached to the guardrail on the downstream side of the bridge is the reference gage. Check bar elevation is 29.19 ft. Gage datum is 2160.729 ft. above MSL.

Bench Mark and Reference Marks

RM #3: destroyed.

RM #1: Brass cap set in the right downstream wing wall of the bridge. Elevation, 26.84 ft. gage datum (levels 07/25/2019).

RM #2: Chiseled "□" on the right upstream wing wall. Elevation, 26.86 ft. gage datum (levels 07/25/2019).

RM #4: Chiseled "□" with a punched mark in the center. RM is located on the top and west end of the South concrete banister (guard rail) of the county road bridge. Approximately 6.4 ft. east from the west end of the banister. Elevation, 29.40 ft. gage datum (levels 07/25/2019).

RM #5: A 5' rebar with an aluminum cap. 4.4' north from wood post at west end of southwest guardrail. Elevation, 26.08 ft. gage datum (levels 07/25/2019).

RM #6: A 5' rebar with aluminum cap. 3.7' south from wood post at east end of the northeast guardrail. Elevation, 29.03 ft. gage datum (levels 07/25/2019).

Check Bar: Wire-weight gage is located on the downstream guardrail of county road bridge. Elevation of check bar, 29.19 ft. gage datum (levels 07/25/2019).

Hydrology

Drainage Area

67.0 square miles.

Channel and Control

The streambed is composed of sand and gravel. The banks are steep and covered with scattered tree and brush growth. The channel makes a sharp bend to the left 200 ft. above the gage and is fairly straight for about 400 ft. below the gage. Flow is steady and swift at low stages and will become increasingly rapid and turbulent at medium and high stages.

Channel. Some remnants of bridge pilings from the old, wooden bridge are in the stream both above and below the orifice, during times of extreme low flow debris will become lodged on them creating backwater.

Discharge Measurements

Low and medium stage measurements are made by wading in the vicinity of the gage. High water measurements are made from the county road bridge above the gage.

Extremes for Period of Record

Peak discharge 3,100 cubic feet per second July 9, 2019, gage height 24.39 ft.

Minimum daily discharge 3.52 cubic feet per second September 1, 2013.

Point of Zero Flow

Variable, about 2.90 gage datum.

Winter Flow

Stage-discharge relation will be affected by ice.

Regulation and Diversions

No regulation. A few small pump diversions above the gage.

Accuracy

Records of stage are generally good to fair. Measuring conditions are good to fair. Open-water records should be good and ice-affected records poor.

Establishment and History

Gage was established on Sept. 13, 2005 by Nebraska Department of Natural Resources in cooperation with the Tri Basin NRD. Gage consisted of an Accubar pressure transducer paired with a SatLink data logger/transmitter. Gage datum (NGVD29) 2160.441 ft.

April 3, 2013 the Accubar pressure transducer was removed and replaced with a Constant Flow Bubbler.

May 21, 2014 NAVD88 gage datum was established as 2160.729 ft.

October 15, 2014 the 4’ x 3’ x 4’ ft. metal, “gun cabinet” style gage house was removed and replaced with a 30”W x 24”D x 72”H stainless steel gage house in the same location.

Revision History

Original prepared March 19, 2005 by D. Gunderson

Revised March 2, 2009 by D. Gunderson

August 26, 2013 D. Gunderson

May 23, 2014 D. Gunderson

August 12, 2015 D. Gunderson

January 24, 2019 D. Gunderson

August 27, 2019 D. Gunderson