Idabel Public Works Authority, McCurtain County

DRAFT WASTELOAD ALLOCATION REPORT

NPDES#: New Discharge

List of figures

1. Problem Definition

The Idabel Public Works Authority (IPWA) located in McCurtain County is looking to discharge water from the backwash basins to address DEQ's Notice of Violation (NOV). Currently, the filter backwash is discharged through septic fields that are inadequate and that results in backwash lagoon overflow.

IPWA proposed to construct new backwash holding basin and discharge decant from the basin to the Little River (OK410200010200_10). IPWA has formally requested to discharge a design flow of 0.111 MGD of backwash water. The primary concern of DEQ is high turbidity and low dissolved oxygen (DO) as a result of the discharge.

Turbidity is a measure of water clarity and is caused by suspended particles in the water column. Elevated turbidity levels caused by excessive sediment loading and stream bank erosion impact aquatic communities. This waterbody assessment addresses high turbidity since no DO demanding substances will be discharged from the Water Treatment Plant (WTP).

The Little River (OK410200010200_10) is listed in the Oklahoma Water Quality Standards (OAC 785:45) as having the following beneficial uses:

- Cool Water Aquatic Community (CWAC)
- Primary Body Contact Recreation
- Aesthetics
- Fish Consumption
- Agriculture
- Public and Private Water Supply
- High Quality Water

The Little River is not listed on Oklahoma's 303(d) list for dissolved oxygen. This water body assessment does not have any impact on the 303(d) list and this WLA has been developed in order to ensure that the limits assigned to the discharge are stringent enough to maintain DO standards under critical conditions.

2. Source Analysis

Idabel Public Works Authority (IPWA)

Facility Legal Description:	¼SW, ¼SW, ¼NW S20, T07S, R24E, I.M.
Point of Discharge (POD):	¼NW, ¼SW, ¼NW S20, T07S, R24E, I.M. or
	Latitude: 33° 56' 4.71" N*
	Longitude: -94° 49' 36.58" W*

* 1987 North American Datum

3. Linkage between Sources and Receiving Water

The links between sources and the receiving streams can be established through typical water quality models such as spreadsheet mass balance, desktop Streeter-Phelps model, modified Streeter-Phelps model (SOD included), QUAL2E, QUALTX, SWAT, and HSPF etc. However,

since the discharge is from a WTP and no DO-demanding substances will be discharged, no modeling was required.

4. Allocations

The Oklahoma Pollutant Discharge Elimination System's (OPDES) general permit, a permit to discharge wastewater from filter backwash operations at potable water treatment plants requires that new facilities or expanding existing facilities maintain a monthly average limit of 20 mg/l TSS in their effluent. However, 2014 Total Maximum Daily Load (TMDL) report for Lower Red River-Little River Basin indicated that Cool Water Aquatic Community (CWAC) turbidity standard of 10 NTU in the Little River (OK410200010200_10) was estimated to be equivalent to 6.9 mg/L TSS based on the relationship between turbidity and TSS. The City will consequently be required to discharge according to the OPDES general permit.

5. Final Recommendations

The following changes are recommended for inclusion in the Oklahoma Water Quality Management Plan (208 Plan).

	Idabel Public Works Authority (Idabel WTP)
Proposed Design Flow:	0.111 MGD
All Year Round:	6.9 mg/L TSS
	1.0 mg/L Dissolved Iron
	1.0 mg/L Dissolved Aluminum
	1.0 mg/L Dissolved Manganese
Receiving Stream:	Little River (OK410200010200_10)

These limitations are minimum requirements and also TSS WLA will be added to existing TMDL (2014 Bacterial and Turbidity TMDLs for the Oklahoma Lower Red River-Little River Basin Study Area). If a TMDL is approved for the stream, any more stringent limitations contained in the TMDL will apply.

The limits established for dissolved iron, aluminum, and manganese are judged to represent the level of treatment attainable through the application of the Best Available Technology (BAT) that is economically achievable.

6. Public Participation

This Draft WLA report will be sent for public comments. Public comments received during this period will be responded to and become part of the WLA report which will be transmitted to EPA for approval.

7. References

1. *Title 252, Oklahoma Administrative Code, Chapter 730 Oklahoma's Water Quality Standards*, State of Oklahoma, 2023. https://www.deq.ok.gov/wp-content/uploads/deqmainresources/730.pdf

2. *Oklahoma Continuing Planning Process, 2012 Version*, Oklahoma Department of Environmental Quality, State of Oklahoma, 2012. https://www.deq.ok.gov/wp-content/uploads/water-division/2012-OK-CPP.pdf

3. *Oklahoma Pollutant Discharge Elimination System General Permit OKG38 to Discharge Wastewater from Filter Backwash Operations at Potable Water Treatment Plants, 2020,* Oklahoma Department of Environmental Quality, State of Oklahoma. https://www.deq.ok.gov/wp-content/uploads/water-division/2020-OKG38-General-Permit-to-Discharge-Filter-Backwash-Wastewater-fact-sheet.pdf

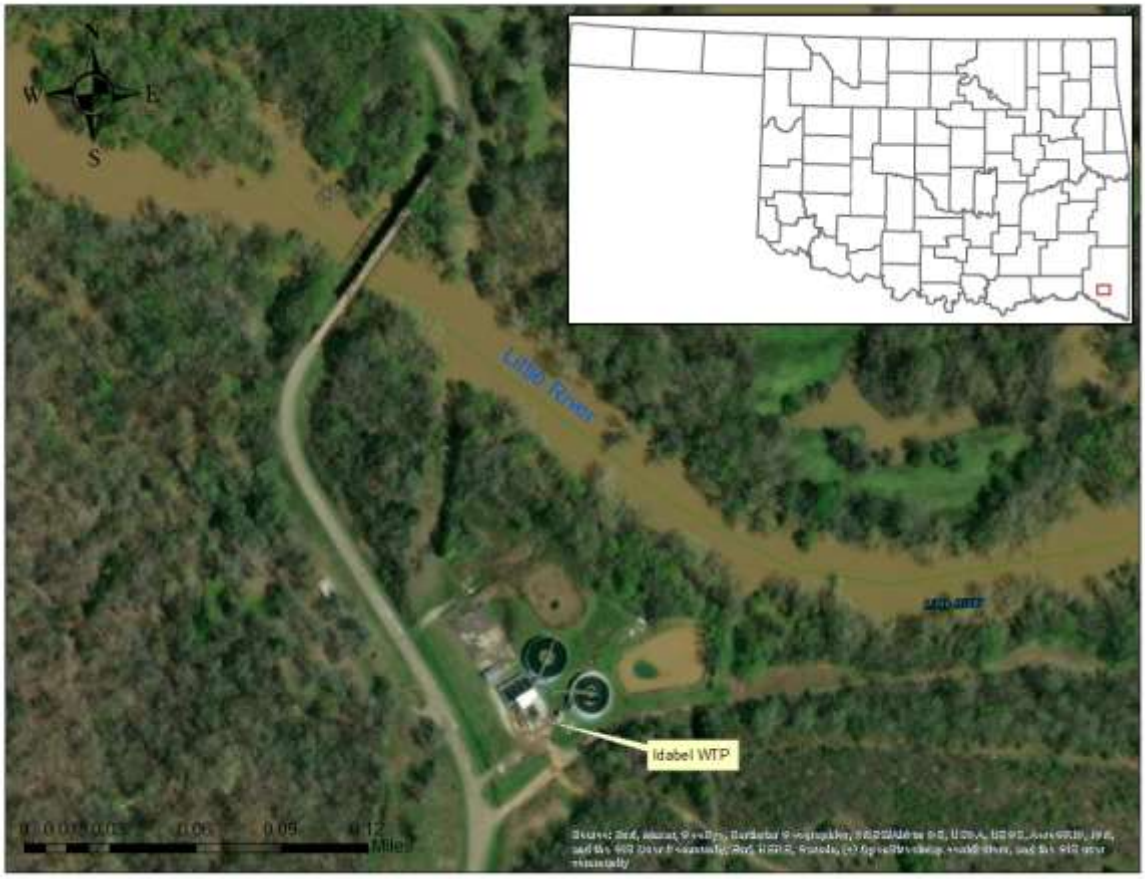

Figure 1 Idabel Water Treatment Plant, McCurtain County and Receiving Stream (Little River)