



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
John H. Tippets, Director

June 22, 2018

Ms. Susan Poulson
US Environmental Protection Agency, Region 10
1200 6th Avenue, OW-130
Seattle, WA 98101

RE: Final §401 Water Quality Certification for the Final NPDES Permit No. ID-0021997 for
the City of Harrison Wastewater Treatment Plant

Dear Ms. Poulson:

The State of Idaho Department of Environmental Quality (DEQ) received a request for final certification on June 20, 2018 for the Harrison Wastewater Treatment Plant to discharge from their existing facility. After review of the proposed final permit, DEQ submits the enclosed final §401 water quality certification.

Please direct any questions to June Bergquist at 208.666.4605 or june.bergquist@deq.idaho.gov.

Sincerely,

A handwritten signature in blue ink that reads "Daniel Redline".

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office

Enclosure

C: Loren Moore, DEQ Boise
Jenny Wu, EPA Region 10, Seattle
Mayor Kayleen Walker, City of Harrison P.O. Box 73 Harrison, ID 83833



Idaho Department of Environmental Quality Final §401 Water Quality Certification

June 22, 2018

NPDES Permit Number(s): Harrison Wastewater Treatment Plant ID0021997

Receiving Water Body: Anderson Slough

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon our review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier I Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier III Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier I protection for that use, unless specific circumstances warranting Tier II protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

Harrison WWTP discharges the following pollutants of concern: ammonia, phosphorus, chlorine, BOD₅, TSS, pH, and *E. coli* bacteria. Effluent limits have been developed for BOD₅, TSS, *E. coli*, chlorine, ammonia, and pH. No effluent limits are proposed for phosphorus.

Receiving Water Body Level of Protection

The Harrison WWTP discharges to Anderson Slough, an unassessed waterbody with no assessment unit. Anderson Slough is undesignated. DEQ presumes undesignated waters in the state will support cold water aquatic life and primary and secondary contact recreation beneficial uses; therefore, undesignated waters are protected for these uses (IDAPA 58.01.02.101.01.a). In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

This waterbody is not included in Category 3 (Unassessed Waters) of the 2014 Integrated Report. However for unassessed waters, DEQ must provide an appropriate level of protection on a case-by-case basis using information available at this time (IDAPA 58.01.02.052.05.b).

The contact recreation and cold water aquatic life beneficial uses are unassessed, however *E. coli* data collected by DEQ for this certification indicate that recreational uses are fully supporting. Because the collection of data necessary to determine the support status of cold water aquatic life would need to occur in summer months, the applicant has agreed to consider Anderson Slough high quality waters for cold water aquatic life for the purposes of this, and only this, antidegradation review. Therefore, DEQ will provide Tier I in addition to Tier II protection for these uses (IDAPA 58.01.02.051.01 and 58.01.02.051.02).

Protection and Maintenance of Existing Uses (Tier I Protection)

A Tier I review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing and designated uses and the level of water quality necessary to protect existing and designated uses shall be maintained and protected. In order to protect and maintain existing and designated beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of existing and designated beneficial uses. The effluent limitations and associated requirements contained in the Harrison WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Although, Anderson Slough has no outlet or visible culverts in banks that surround the slough, water levels in the slough rises and falls with water level changes in the river and lake. There are two culverts under the Trail of the Coeur d'Alenes near the City of Harrison that connect it to the lake during periods of high flows. Due to the lack of hydrologic information and flow, no mixing was allowed for the effluent. WQS must be met at end of pipe. The design flow for Harrison remains at 0.03 mgd.

In summary, the effluent limitations and associated requirements contained in the Harrison WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Anderson Slough in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

High-Quality Waters (Tier II Protection)

Anderson Slough is considered high quality for cold water aquatic life and recreation uses. As such, the water quality relevant to cold water aquatic life and recreation uses of the Anderson Slough must be maintained and protected, unless a lowering of water quality is deemed necessary to accommodate important social or economic development.

To determine whether degradation will occur, DEQ must evaluate how the permit issuance will affect water quality for each pollutant that is relevant to cold water aquatic life and recreation uses of the Anderson Slough (IDAPA 58.01.02.052.05). These include the following: *E. coli* bacteria, phosphorus, chlorine, and ammonia. Effluent limits are set in the proposed and existing permit for *E. coli*, chlorine and ammonia.

For a reissued permit or license, the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the current permit and the water quality that would result from the activity or discharge as proposed in the reissued permit or license (IDAPA 58.01.02.052.06.a). For a new permit or license, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit or license (IDAPA 58.01.02.052.06.a).

Pollutants with Limits in the Current and Proposed Permit: *E. coli*, Chlorine

For pollutants that are currently limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the current permit or license (IDAPA 58.01.02.052.06.a.i), and the future discharge quality is based on the proposed permit limits (IDAPA 58.01.02.052.06.a.ii). For the Harrison WWTP permit, this means determining the permit's effect on water quality based upon the limits for *E. coli* and chlorine in the current and proposed permits. Table 1 provides a summary of the current permit limits and the proposed or reissued permit limits and shows that there will be no change in load or concentration for either of these pollutants (other than slight changes up and down for ammonia and chlorine due to mathematical and statistical corrections from the previous permit).

Table 1. Comparison of current and proposed permit limits for pollutants of concern relevant to uses receiving Tier II protection.

Pollutant	Units	Current Permit			Proposed Permit			Change ^a
		Average Monthly Limit	Average Weekly Limit	Max Daily Limit	Average Monthly Limit	Average Weekly Limit	Max Daily Limit	
Pollutants with limits in both the current and proposed permit								
Five-Day BOD	mg/L	30	45	—	30	45	—	NC
	lb/day	8	12	—	8	11	—	
	% removal	none	—	—	78%	—	—	
TSS	mg/L	45	65	—	45	65	—	NC
	lb/day	12	18	—	11	16	—	
	% removal	none	—	—	75%	—	—	
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
<i>E. coli</i>	no./100 mL	126	—	406	126	—	406	NC
Total Residual Chlorine (final)	mg/L	0.007	—	0.018	0.009	—	0.017	NC
	lb/day	0.002	—	0.005	0.002	—	0.0045	
Pollutants with new limits in the proposed permit								
Total Ammonia	mg/L	—	—	—	3	—	9	D
	lb/day	—	—	—	0.8	—	2	
Pollutants with no limits in both the current and proposed permit								
Total Phosphorus	mg/L	—	—	Report	—	—	Report	NC

^aNC = no change, I = increase, D = decrease.

The proposed permit limits for other pollutants of concern that have limits in Table 1, are the same as, or more stringent than, those in the current permit (“NC” or “D” in change column). Therefore, no adverse change in water quality and no degradation will result from the discharge of these pollutants.

New Permit Limits for Pollutants Currently Discharged

When new limits are proposed in a reissued permit for pollutants in the existing discharge, the effect on water quality is based upon the current discharge quality and the proposed discharge quality resulting from the new limits. Current discharge quality for pollutants that are not currently limited is based upon available discharge quality data (IDAPA 58.01.02.052.06.a.i). Future discharge quality is based upon proposed permit limits (IDAPA 58.01.02.052.06.a.ii).

The proposed permit for Harrison WWTP includes new limits for ammonia (Table 1). The ammonia limits in the proposed permit reflect an improvement in water quality from current conditions. Therefore, no adverse change in water quality and no degradation will occur with respect to this pollutant.

Pollutants with No Limits: phosphorus

There is one pollutant of concern, phosphorus, relevant to Tier II protection of recreation that currently is not limited and for which the proposed permit also contains no limit (Table 1). For such pollutants, a change in water quality is determined by reviewing whether changes in production, treatment, or operation that will increase the discharge of these pollutants are likely (IDAPA 58.01.02.052.06.a.ii). With respect to phosphorus, there is no reason to believe this pollutant will be discharged in quantities greater than those discharged under the current permit. This conclusion is based upon the fact that there have been no changes in the permitted design flow, influent quality, or treatment processes that would likely result in an increased discharge of this pollutant. Because the proposed permit does not allow for any increased water quality

impact from this pollutant, DEQ has concluded that the proposed permit should not cause a lowering of water quality for the pollutant with no limit. As such, the proposed permit should maintain the existing water quality in Anderson Slough. Phosphorus monitoring of effluent is proposed for the new permit.

In sum, DEQ concludes that this discharge permit complies with the Tier II provisions of Idaho's WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Compliance Schedule

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for water quality-based effluent limits issued in a permit for the first time. Harrison WWTP cannot immediately achieve compliance with the effluent limits for ammonia; therefore, DEQ authorizes a compliance schedule and interim requirements, including interim limits in Table 2, as set forth below. This compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limits as specified in the permit. At the same time, the schedule ensures that compliance with the final effluent limits is accomplished as soon as possible.

Harrison WWTP relies on a lagoon treatment system which is approaching full design capacity. There is also substantial demand for additional treatment capacity. Reduction of ammonia in a lagoon system is dependent in part on hold time and dissolved oxygen levels in the water. As flows increase, the facility may be less able to hold water for the length of time needed to achieve satisfactory ammonia reduction. Higher summertime temperatures lower the amount of dissolved oxygen in the water (a physical property of water) which reduces the ability of a lagoon system to convert ammonia to less harmful substances (nitrification process). Lagoon aeration can be used to increase oxygen but this method may not be sufficient in a heavily loaded system to achieve ammonia limits. Due to these limitations of the current facility, DEQ has allowed the permittee enough time to construct a new type of treatment system. Ultimately, it will be up to the City of Harrison through their facility planning effort to determine how to meet their new limits if efforts in the Compliance Schedule Part A fail to do so.

The ammonia effluent limit was based on data collected in 2006. At this time, the facility was experiencing compliance issues. Upgrades to the facility were implemented in 2008 which greatly improved compliance. This upgrade and operational changes may have improved ammonia treatment so that new effluent limits might be met without any changes or can be achieved through optimization of the current process. To ensure that compliance with final limits is achieved as soon as possible, DEQ authorizes a two part compliance schedule. Part A focuses on a monitoring and optimization schedule to meet final limits. If these efforts fail, Part B begins a longer more comprehensive facility planning, design, and construction effort to meet ammonia limits.

Interim Requirements for Compliance Schedule Part A

1. Immediately following the effective date of the final permit, the permittee must begin monitoring ammonia concentrations as directed by the final permit and if final ammonia limits are not being met, initiate optimization of treatment to meet final effluent limits.
2. By one (1) year from the date of the final permit, the permittee must provide EPA and DEQ with a written progress report including results of ammonia monitoring and progress made towards meeting final ammonia limits. The report shall also summarize results and indicate that (1) further monitoring and optimization are worthwhile in efforts to meet final effluent limits or (2) further monitoring and optimization are unlikely to result in meeting final limits. If the conclusion is (2) then begin Part B of this compliance schedule.
3. By two (2) years from the date of the final permit, the permittee must provide EPA and DEQ final results of monitoring and optimization and must reliably meet final ammonia limits. If ammonia limits still cannot be met, begin Part B of this compliance schedule.

Interim Requirements for Compliance Schedule Part B

1. By three (3) years after the effective date of the final permit, a draft facility plan shall be submitted to DEQ for review and approval. The facility plan shall include outlining estimated costs and schedules for construction of a new or upgraded wastewater treatment plant and implementation of technologies to achieve final effluent limitations. This schedule must include a timeline for pilot testing. If the new or upgraded plant includes an increase in design capacity, be aware that new additions of phosphorus in Coeur d'Alene Lake may be limited in future permits (*Coeur d'Alene Lake Management Plan, 2009*).
2. By four (4) years after the effective date of the final permit, a final facility plan shall be submitted to DEQ for review and approval.
3. By five (5) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a progress report on funding for the new or upgraded facility. Copy of notice of bond approval or notice of judicial confirmation is acceptable.
4. By six (6) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that design has been completed and approved by DEQ and that bids for construction have been awarded to achieve final effluent limitations.
5. By seven (7) and eight (8) years after the effective date of the final permit, the permittee must provide EPA and DEQ with brief progress reports of construction as they relate to meeting the compliance schedule timeline and final effluent limits.
6. By nine (9) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that construction on the portions of the facility required to achieve final effluent limits has reached substantial completion.
7. By ten (10) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a written report providing details of a completed start up and optimization

phase of the new or upgraded treatment system and must achieve compliance with the final effluent limitations of Part I.B.

Table 2. Interim Limits			
Parameter	Units	Average Monthly Limit	Maximum Daily Limit
Ammonia	mg/L	15	30

The permittee must comply with all other effluent limitations beginning on the effective date of the final permit.

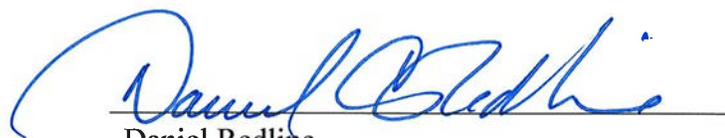
Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the “Rules of Administrative Procedure before the Board of Environmental Quality” (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to June Bergquist, Coeur d’Alene Regional Office at 208-666-4605 or via email at june.bergquist@deq.idaho.gov.



Daniel Redline
Regional Administrator
Coeur d’Alene Regional Office