State of Idaho
Department of
Environmental Quality

2110 Ironwood Parkway ▪ Coeur d'Alene, ID 83814 ▪ (208) 769-1422

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

June 11, 2018

Certified Mail # 7015 0640 0004 7137 0216

Mr. Chris de Groot, District Manager
North Kootenai Water and Sewer District
13649 North Meyer Road
Rathdrum, Idaho 83858

RE: M-143-03 North Kootenai Water and Sewer District – Gozzer Ranch Golf and Lake Club, Final Reuse Permit and Staff Analysis

Dear Mr. de Groot:

The Idaho Department of Environmental Quality (DEQ) is issuing the above referenced reuse permit to the North Kootenai Water and Sewer District – Gozzer Ranch Golf and Lake Club. The enclosed document is your official copy of the permit and demonstrates that you are authorized to operate the reuse facility subject to the conditions specified in the permit.

The public comment period ended on May 31, 2018 and the only comment received was your email dated May 14, 2018 to update the responsible official. This change has been incorporated. In Section 4.5, DEQ also made the following changes:

1. *MU-143-01: grass – **golf course** ~~landscape~~ turf*
   *MU-143-02: grass – landscape **turf***
2. *On days when recycled water is not sampled for total coliform ~~(no greater than two days per week)~~, discharge to the golf irrigation pond is not allowed.*

This change was made to be more consistent with other recycled water monitoring conditions and limits in the permit.

Your permit is issued as of June 11, 2018 and expires on June 11, 2028. If you have any questions, please contact Matt Plaisted at (208) 666-4622 or email him at matthew.plaisted@deq.idaho.gov.

Sincerely,

Daniel Redline
Regional Administrator
Daniel.Redline@deq.idaho.gov

Enclosure to all: Permit, Staff Analysis

C: Dan Messier, Field Supervisor, NKWSD

EC: Matt Plaisted, Engineering Manager, Coeur d'Alene Regional Office
Andrew John, Environmental Scientist, Technical Services Division
Larry Waters, Wastewater Program Manager, State Office
Adam Bussan, Wastewater Program Reuse Engineer, State Office
Michael Stambulis, Engineering Manager, Technical Services Division
Whitney Rowley, Administrative Assistant, State Office
HPE Record No. 2018AGH895

Idaho Department of Environmental Quality
Reuse Permit
M-143-03

(Previous Permit No. M-143-02)

North Kootenai Water and Sewer District – Gozzer Ranch Golf and Lake Club (hereafter "permittee") is hereby authorized to construct, install, and operate a reuse facility in accordance with (1) this permit; (2) IDAPA 58.01.17 "Recycled Water Rules"; (3) an approved plan of operation; and (4) all other applicable federal, state, and local laws, statutes, and rules. This permit is effective from the date of signature and expires on June 11, 2028.

Signature

June 11, 2018
Date

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office
Idaho Department of Environmental Quality

Idaho Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

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Table of Contents

1. Common Acronyms/Abbreviations and Definitions

CA	compliance activity
DEQ	Idaho Department of Environmental Quality
director	DEQ director or designee unless otherwise specified
EPA	United States Environmental Protection Agency
FM	prefix for flow measurement/monitoring location, device, or method reporting serial number
HDPE	high-density polyethylene
IDAPA	numbering designation for all administrative rules in Idaho promulgated according to the Idaho Administrative Procedure Act
IDWR	Idaho Department of Water Resources
LG	prefix for lagoon reporting serial number
material change	a change in a document required by this permit that would impact DEQ's ability to ensure compliance and protect human health and the environment
MG	million gallons
mg/L	milligram per liter
mL	milliliter
MU	management unit, prefix for management unit reporting environmental serial number
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit
PO	plan of operation
PVC	polyvinyl chloride
QAPP	quality assurance project plan
responsible official	facility contact person authorized by the permittee to communicate with DEQ on behalf of the permittee on any matter related to the permit, including without limitation, the authority to communicate with and receive notices from DEQ regarding notices of violation or non-compliance, permit violations, permit enforcement, and permit revocation. The responsible official provides written certification of permit application materials, annual report submittals, and other information submitted to DEQ as required by the permit. Any notice to or communication with the responsible official is considered a notice to or communication with the permittee. The responsible official may designate an authorized representative to act as the facility contact person for any of the activities or duties related to the permit, except signing and certifying the permit application, which must be done by the responsible official. The authorized

	representative shall act as the responsible official and shall bind the permittee as described in this definition. Designation of the authorized representative shall follow the requirements specified in section 6.1.3 of the permit.
WW	prefix for wastewater reporting serial number
WWTP	wastewater treatment plant
NKWSD	North Kootenai Water and Sewer District

2. Facility Information

Information Type	Information Specific to This Permit
Type(s) of recycled water	Class A domestic wastewater from the Gozzer Ranch housing development and Arrow Point Community.
Method of treatment and reuse	Membrane bioreactor, UV disinfection, slow rate land application to golf course and residential lots
Collection and treatment system classification	Wastewater collection system classification: I Wastewater treatment system classification: III
Facility location	23749 Hwy 97 Harrison, Idaho 83833 WWTP: Off highway 97 in Coeur d'Alene, ID approximately 890 feet north of the intersection with South Arrow Point Drive. Class A Reuse Project Area: Gozzer Ranch Golf and Lake Club golf course and 34 private residential lots in the Gozzer Ranch subdivision.
Facility mailing address	13649 N. Meyer Rd. Rathdrum, Idaho 83858
Facility responsible official and authorized representative	Responsible Official: Mr. Chris de Groot, District Manager, (208) 687-6593, chrisd@nkwsd.com Authorized Representative: Mr. Daniel Messier, Field Supervisor, (208) 687-6593, danm@nkwsd.com Notify DEQ within 30 days if a change in personnel occurs for any of the facility contacts. DEQ will issue a minor permit modification to confirm the change.
Ground water	150 to 200 feet; basalt aquifer, with shallow perched water overlaying dense basalt within 2.0 to 6.5 feet. Greater than 1,000 feet to two Arrow Point community public water supply wells.
Surface water	Lake Coeur d'Alene, located ~0.3 miles from MUs. Beneficial uses: cold water aquatic life, salmonid spawning, domestic water supply, and primary contact recreation (IDAPA 58.01.02.110.10). Multiple freshwater ponds located approximately 15 feet from the golf course.

3. Compliance Schedule for Required Activities

Compliance Activity (CA) Number and Completion Due Date	Compliance Activity Description
CA-143-01 12 months after permit issuance	**Updated Plan of Operation (PO)**: The permittee shall submit for review and approval a PO that reflects current operations and incorporates the requirements of this permit. The PO shall comply with the applicable requirements stated in IDAPA 58.01.17.300.05 and shall address applicable items in the most current DEQ Plan of Operation Checklist. The PO shall be updated as needed to reflect current operations. The permittee shall notify DEQ of material changes to the PO and copies shall be kept on site and made available to DEQ upon request. The completed manual shall be incorporated by reference into this permit and shall be enforceable as part of this permit.
CA-143-02 12 months after permit issuance	**Quality Assurance Project Plan (QAPP)**: The permittee shall prepare and implement a QAPP that incorporates all monitoring and reporting required by this permit. A copy of the QAPP along with written notice that the permittee has implemented the QAPP shall be provided to DEQ. The QAPP shall be designed to assist in planning for collecting, analyzing, and reporting all monitoring in support of this permit and in explaining data anomalies when they occur. At a minimum, the QAPP must include the following: 1. Details on the number of measurements, number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements 2. Maps indicating the location of each monitoring and sampling point 3. Qualification and training of personnel 4. Names, addresses, and telephone numbers of the laboratories used by or proposed to be used by the permittee 5. Example formats and tables that will be used by the permittee to summarize and present all data in the annual report The format and content of the QAPP should adhere to the recommendations and references in the Quality Assurance and Data Processing sections of the reuse guidance. The permittee shall amend the QAPP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAPP. The permittee shall notify DEQ of material changes to the QAPP and copies shall be kept on site and made available to DEQ upon request.

<table>
<tr><th>Compliance Activity (CA) Number and Completion Due Date</th><th>Compliance Activity Description</th></tr>
<tr><td>CA-143-03
As specified</td><td>Seepage Testing: The following table shows the date by which the permittee shall complete seepage testing on the specified lagoons:<table><tr><td>Lagoon:</td><td>Seepage Test Due Date:</td></tr><tr><td>Bypass storage lagoon</td><td>June 30, 2027</td></tr></table>Submit to DEQ for review and approval a proposed schedule and procedure for performing the required seepage tests at least 45 days before to the planned seepage test. The seepage test procedures shall be sealed by the Idaho licensed professional engineer or professional geologist in responsible charge for the test.

Seepage tests shall be completed according to the procedures approved by DEQ. The seepage test report shall be sealed by the person in responsible charge and submitted within 90 days after completion of the seepage test.

Allowable seepage rates can be found in IDAPA 58.01.16.493.03. Requirements for lagoons leaking above the allowable amount are outlined in IDAPA 58.01.16.493.04.</td></tr>
<tr><td>CA-143-04
6 months after permit issuance</td><td>Updated Preliminary Technical Report (PTR): The permittee shall submit to DEQ for review and approval an update to the Welch-Comer June, 2005 PTR for Land Application to re-assess the adequacy of the emergency bypass storage lagoon for use under normal operating conditions. The report must include a maximum volume that can be diverted to the lagoon for non-emergency use that will allow for adequate emergency storage.

Upon DEQ approval of the updated PTR, all updated information regarding the bypass storage lagoon shall be included in the PO.</td></tr>
<tr><td>CA-143-05
6 months after permit issuance</td><td>Public and Private Well Status Report: The permittee shall submit to DEQ for review and approval a report documenting the use status of all wells located within fifty (50) feet of the reuse site. For wells located within 50 feet of the reuse site, the permittee shall document in the report that wellheads are adequately protected.</td></tr>
<tr><td>CA-143-06
At least 1 year prior to expiration date of this permit</td><td>Pre-application Workshop: If the permittee intends to continue operating the reuse facility beyond the expiration date of this permit, the permittee shall contact DEQ and schedule a pre-application workshop to discuss the compliance status of the facility and the content required for the reuse permit application package.</td></tr>
<tr><td>CA-143-07
At least 6 months prior to expiration date of this permit</td><td>Renewal Permit Application: The permittee shall submit to DEQ a complete permit renewal application package that fulfills the requirements specified in CA-143-06 and identified at the pre-application workshop.</td></tr>
</table>

4. Permit Limits and Conditions

4.1 Management Unit Descriptions

Serial Number	Description	Irrigation System Type	Maximum Acres[a] Allowed
MU-143-01	Gozzer Ranch Golf Course	Commercial in-ground turf sprinkler system	122
MU-143-02	34 private residential lots adjacent to the Gozzer Ranch Golf Course	Commercial in-ground turf sprinkler system	8
		Total acreage	130

a. Maximum acres represent the total permitted acreage of the MU as provided by the permittee.

4.2 Hydraulic Loading Limits

Serial Number	Growing Season Hydraulic Loading	Nongrowing Season Maximum Hydraulic Loading (inches)[a]
MU-143-01	Not Applicable	Not allowed
MU-143-02	Not Applicable	Not allowed

4.3 Constituent Loading Limits – *None*

4.4 Management Unit Buffer Zones

Serial Number	Buffer Distances (feet) from Management Units					
	Public Water Supplies	Private Water Supplies	Inhabited Dwellings	Permanent and Intermittent Surface Water[a]	Irrigation Ditches and Canals	Areas Accessible to the Public
MU-143-01	50	50	0	0	0	0
MU-143-02	50	50[b]	0	0	0	0

a. Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the EPA (IDAPA 58.01.16.600.02).

b. Two private wells less than 50 feet from MU-143-02 are at an acceptable distance unless otherwise indicated in CA-143-05.

4.5 Other Permit Limits and Conditions

Category	Permit Limits and Conditions
Growing season	April 1 through October 31 (214 days)
Nongrowing season	November 1 through March 31 (151 days)
Reporting year for annual loading rates	November 1 through October 31
Operator certification and endorsement	The wastewater treatment facility and reuse system shall be operated by personnel certified and licensed in the State of Idaho wastewater operator training program at the operator class level specified in IDAPA 58.01.16.203 and properly trained to operate and maintain the system.
Disinfection limits in recycled water	Class A: The median number of total coliform organisms does not exceed two and two-tenths (2.2) per one hundred (100) milliliters, as determined from the bacteriological results of the last seven (7) days for which analyses have been completed. No sample shall exceed twenty-three (23) organisms per one hundred (100) milliliters in any confirmed sample. A disinfection process that, when combined with filtration, has been demonstrated to achieve 5-log inactivation of virus.
Filter Operations and Turbidity Limits	An in-line, continuously monitoring and recording turbidimeter is required following filtration and prior to disinfection. • Effluent turbidity shall not exceed two-tenths (0.2) NTU based on the daily arithmetic mean of all daily measurements. • Effluent turbidity shall not exceed one-half (0.5) NTU at any time. If the instantaneous effluent turbidity exceeds 0.5 NTU for more than five (5) minutes, filtered wastewater shall be automatically diverted to the bypass storage lagoon until such time as the effluent is below the instantaneous limit.
Maximum Total Nitrogen	Total nitrogen shall not exceed thirty (30) mg/L as a monthly arithmetic mean from weekly composite samples.
BOD_5	BOD_5 shall not exceed ten (10) mg/L as a monthly arithmetic mean from weekly composite samples.
pH	pH shall be between 6.0 and 9.0, when discharging to the golf irrigation pond (LG-143-03).
Crop or vegetation allowed	MU-143-01: grass – golf course turf MU-143-02: grass – landscape turf
Grazing	Grazing is not allowed.
Posting	MU-143-01: Signs shall be posted around the golf irrigation pond and notification shall be provided to users of the golf course that the golf course is irrigated with recycled water. Signs shall read "Caution: Recycled Water–Do Not Drink", or equivalent signage both in English and Spanish. Signs are to be posted every 500 feet and at each corner of the outer perimeter of the buffer zone(s) of the site.
Fencing	None Required

Category	Permit Limits and Conditions
Construction Plans	Pursuant to Idaho Code §39-118, IDAPA 58.01.16, and IDAPA 58.01.17, detailed plans and specifications shall be submitted to DEQ for review and approval before construction, modification, or expansion of any wastewater treatment, storage, conveyance structures, ground water monitoring wells, or reuse facility. Inspection requirements shall be satisfied and within 30 days of completion of construction, the permittee shall submit as-built plans or a letter from an Idaho professional engineer certifying the facilities or structures were constructed in substantial accordance with the approved plans and specifications.
Records Retention Requirements	Keep records generated to meet the requirements of this permit for the duration of permit, including administrative extensions, plus 2 years.
Utility User Agreement	The permittee is required to establish and maintain a utility agreement with any entity that will utilize the Class A effluent produced by the permittee for irrigation. The utility agreement must state that the user understands the origin of the effluent and the concept of agronomic rate for applying the Class A recycled water.
Public Education Program	The permittee must undertake a public education program within its service area to teach potential customers the benefits and responsibilities of using Class A recycled water. The service area includes the service area of Gozzer Ranch Lake and Golf Club irrigation system.
Bypass Storage Lagoon	On days when recycled water is not sampled for total coliform, discharge to the golf irrigation pond is not allowed. Unless otherwise specified by CA-143-04, discharge of recycled water to the emergency bypass lagoon for any purposes other than emergency storage of off specification water is prohibited.
Standby Power	Standby power with sufficient capacity capable of operating the treatment and distribution works shall be provided and maintained at all times.

5. Monitoring Requirements

5.1 Recycled Water and Supplemental Irrigation Water Sampling and Analyses

5.1.1 Constituent Monitoring

Monitoring Point Serial Number and Location	Sample Description	Sample Type and Frequency	Constituents (mg/L unless otherwise specified)
WW-143-01 Discharge from membrane filtration prior to disinfection	Recycled water after filtration and prior to disinfection	Continuous	Turbidity (NTU)
WW-143-02 Discharge point after disinfection	Recycled water to LG-143-03	Composite/weekly	Total nitrogen BOD_5
		Grab/daily when producing recycled water	Total coliform (CFU/100 mL) pH
WW-143-03 Outlet at the irrigation pond	Recycled water from LG-143-03 to the MUs	Grab/Monthly during the first and second growing season of the permit cycle	Total nitrogen Total phosphorus

5.1.2 Management Unit and Other Flow Monitoring

Flow Measurement Serial Number and Location	Sample Description	Sample Type and Frequency	Parameters, each FM
FM-143-01 Flow meter at screen to anoxic tank in WWTP	Wastewater influent volume	Daily meter reading Monthly compilation of data	Volume (MG/month)
FM-143-02 Flow meter after filtrate pump in WWTP	Effluent flow to effluent pump station	Daily meter reading Monthly compilation of data	Volume (MG/month)
FM-143-03 Pump at the bypass storage lagoon	Wastewater flow from LG-143-01 to equalization basins	Daily pump run times Monthly compilation of data	Volume (MG/month)
FM-143-04 Waste activated sludge (WAS) pump	Volume of diverted WAS	Daily pump run times Monthly compilation of data	Volume of WAS (gallons)

Flow Measurement Serial Number and Location	Sample Description	Sample Type and Frequency	Parameters, each FM
FM-143-05 Flow meter at effluent pump station vault	Effluent flow to LG-143-03	Daily meter reading Monthly compilation of data	Volume (MG/month)

5.2 Ground Water Monitoring – Not Required

5.3 Soil Monitoring – Not Required

5.4 Crop Monitoring – Not Required

5.5 Lagoon Information

Serial number	Description	Surface Area, acres	Maximum Operating Volume, MG	Liner Type
LG-143-01	Bypass storage lagoon	0.57	1.0	60 mL HDPE
LG-143-03	Golf irrigation pond	2.78	7.8	40 mL PVC geomembrane

6. Reporting Requirements

6.1 Annual Report Requirements

The permittee shall submit to DEQ an annual report prepared by a competent environmental professional covering the previous reporting year.

6.1.1 Due Date

The annual report is due no later than January 31 of each year, which shall cover the previous reporting year.

6.1.2 Required Contents

The annual report shall include the following:

1. A brief interpretive discussion of all required monitoring data. The discussion shall address data quality objectives, validation, and verification; permit compliance; and reuse facility environmental impacts. The reporting year for this permit is specified in section 4.5.
2. Results of the required monitoring as described in section 5 of this permit. If the permittee monitors any parameter for compliance purposes more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual report. The report shall present all monitoring data in organized data summary tables to expedite review.
3. Status of all work described in section 3 of this permit.
4. Results of all backflow testing, repairs, and replacements required by section 9.1.1 of this permit.
5. Discussion of major maintenance activities such as major equipment replacement, lagoon liner maintenance, and wastewater treatment and reuse facility maintenance.
6. A summary of all noncompliance events that occurred during the reporting year. Examples of noncompliance events that must be discussed include, but are not limited to: exceedance of permit limits, complaints, missed monitoring events, incorrect monitoring dates or frequencies, dry monitoring wells, uncontained spills causing runoff, construction without DEQ engineering plan approval, construction without engineering inspection, and reporting incorrect acreage.
7. Submittal of the calculations and observations for MUs specified in the following table.
8. Laboratory analytical reports for monitoring specified in section 5 of the permit. Chain of custody forms, supporting information for laboratory analytical reports, and quality assurance documentation shall be available for review upon request by DEQ.
9. The parameters in the following table:

Monitoring Point Serial Number	Parameter	Units
WW-143-01	Daily arithmetic mean of turbidity and maximum recorded turbidity value in treated effluent prior to disinfection.	NTU
WW-143-02	Monthly arithmetic mean of weekly total nitrogen samples.	mg/L
	Monthly arithmetic mean of weekly BOD_5 samples.	mg/L

6.1.3 Submittals

All applications, annual reports, or information submitted to DEQ as required by this permit shall be signed and certified as follows:

- Permit applications shall be signed by the responsible official as described below:
  - For a corporation by a responsible corporate officer
  - For a partnership or sole proprietorship by a general partner or the proprietor, respectively
  - For a municipality, state, federal, Indian tribe, or other public agency by either the principal executive officer, ranking elected official, or a person of decision-making authority who can legally bind the permittee with respect to the permit.
- Annual reports and other information required by this permit shall be signed by the responsible official or by a duly authorized representative of that person. A person is a duly authorized representative only if all of the following are true:
  - The authorization is made in writing by the responsible official.
  - The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual having overall responsibility for environmental matters for the company.
  - The written authorization is submitted to DEQ.

Submit all applications, annual reports, and other information required by this permit to the following DEQ regional office at this address:

Engineering Manager
Idaho Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

The annual report shall include the following certification statement and be signed, dated, and certified by the permittee's Responsible Official or duly Authorized Representative:

"I certify that the information provided in this submittal was prepared in conformance with the Quality Assurance Project Plan required by permit M-143-03, and is to the best of my knowledge, true, accurate and complete and I acknowledge that knowing submission of false or incomplete information may result in permit revocation as provided for in IDAPA 58.01.17.920.01 or other enforcement action as provided for under Idaho law."

Permit applications shall include the following certification statement and be signed, dated, and certified by the permittee's Responsible Official:

"I certify that the information provided in this submittal is, to the best of my knowledge, true, accurate and complete and I acknowledge that knowing submission of false or incomplete information may result in permit revocation as provided for in IDAPA 58.01.17.920.01, non-issuance of the permit, or other enforcement action as provided for under Idaho law."

Other information submitted to DEQ as required by the permit shall include the above certification statement and be signed, dated, and certified by the permittee's Responsible Official or duly Authorized Representative.

6.2 Emergency and Noncompliance Reporting

Report noncompliance incidents to DEQ's regional office at (208) 769-1422 or toll free at (877) 370-0017.

In case of public health emergencies, call the 24-hour Idaho Emergency Medical Services Communications Center number at (800) 632-8000.

See section 8 of this permit, and IDAPA 58.01.17.500.06 provide the reporting requirements for facilities.

All instances of permit non-compliance that may endanger public health or the environment and unauthorized discharges to surface waters of the State of Idaho shall be reported to DEQ's regional office by telephone (phone numbers provided in this section) within 24 hours from the time the permittee becomes aware of the discharge at the phone numbers provided in this section.

A written follow-up shall be provided to the DEQ regional office within five days from the time the permittee became aware of the permit non-compliance or unauthorized discharge.

Reporting of unauthorized discharges to surface waters of the United States to the US Environmental Protection Agency (EPA) may also be required. Contact information for EPA is provided below:

EPA Contact Information:
NPDES/Stormwater Coordinator, EPA Idaho Operations Office
950 W. Bannock, Suite 900
Boise, ID 83702
(208) 378-5746 / (208) 378-5744 and EPA Hot Line (206) 553-1846

7. Reserved

8. Standard Permit Conditions

The following standard permit conditions are included as terms of this permit as required by the "Recycled Water Rules," (IDAPA 58.01.17.500).

500. STANDARD PERMIT CONDITIONS.
The following conditions shall apply to and be included in all permits. (4-1-88)

01. Compliance Required. The permittee shall comply with all conditions of the permit. (4-1-88)

02. Renewal Responsibilities. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit in accordance with these rules. (4-1-88)

03. Operation of Facilities. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, control and monitoring, which are installed or used by the permittee to achieve compliance with the permit or these rules. (4-1-88)

04. Provide Information. The permittee shall furnish to the Director within a reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these rules. (4-1-88)

05. Entry and Access. The permittee shall allow the Director, consistent with Title 39, Chapter 1, Idaho Code, to: (4-1-88)

a. Enter the permitted facility. (4-1-88)

b. Inspect any records that must be kept under the conditions of the permit. (4-1-88)

c. Inspect any facility, equipment, practice, or operation permitted or required by the permit. (4-1-88)

d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility. (4-1-88)

06. Reporting. The permittee shall report to the Director under the circumstances and in the manner specified in this section: (4-1-88)

a. In writing at least thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process. When the alteration or addition results in a need for a major modification, such alteration or addition shall not be made prior to Department approval issued in accordance with these rules. (4-7-11)

b. In writing thirty (30) days before any anticipated change which would result in noncompliance with any permit condition or these rules. (4-1-88)

c. Orally within twenty-four (24) hours from the time the permittee became aware of any noncompliance which may endanger the public health or the environment at telephone numbers provided in the

permit by the Director. (4-1-88)

d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any noncompliance unless extended by the Department. This report shall contain: (4-1-88)

i. A description of the noncompliance and its cause; (4-1-88)

ii. The period of noncompliance including to the extent possible, times and dates and, if the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and (4-7-11)

iii. Steps taken or planned, including timelines, to reduce or eliminate the continuance or reoccurrence of the noncompliance. (4-7-11)

e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report. (4-1-88)

07. Minimize Impacts. The permittee shall take all necessary actions to eliminate and correct any adverse impact on the public health or the environment resulting from permit noncompliance. (4-1-88)

08. Compliance with "Ground Water Quality Rule." Permits issued pursuant to these rules shall require compliance with IDAPA 58.01.11, "Ground Water Quality Rule." (4-7-11)

9. General Permit Conditions

The following general permit conditions are based on the cited rules at the time of issuance and are enforceable as part of this permit. Note that the rules cited in this section, and elsewhere in this permit, are supplemented by the rules themselves. Rules applicable to your facility are enforceable whether or not they appear in this permit.

9.1 Operations

9.1.1 Backflow Prevention

Reuse facilities with existing or planned cross-connections or interconnections between the recycled water system and any water supply (potable or nonpotable) or surface water, shall have backflow prevention assemblies, devices, or methods as required by applicable rule or as specified in this permit and approved by DEQ.

For public water systems, backflow assemblies shall meet the requirements of IDAPA 58.01.08.543. Assemblies shall be adequately maintained and shall be tested annually by a certified backflow assembly tester, and repaired or replaced as necessary to maintain operational status.

For domestic water supply wells, backflow prevention devices shall meet the requirements of IDAPA 07.02.04 and shall be adequately operated and maintained.

Irrigation water supply wells shall meet the requirements of IDAPA 37.03.09.36 for preventing any waste or contamination of the ground water resource. Backflow prevention assemblies or devices used to protect the ground water shall be adequately operated and maintained.

Discharge of recycled water to surface water is regulated by the EPA National Pollutant Discharge Elimination System (NPDES) program. An NPDES permit is required for any discharge to surface water and backflow prevention shall be implemented to prevent any unauthorized discharge. Backflow prevention assemblies or devices used to protect surface water shall be adequately operated and maintained.

Records of all testable backflow assembly test results, repairs, and replacements shall be kept at the reuse facility along with other operational records, and shall be discussed in the annual report and made available for inspection by DEQ. Other approved means of backflow prevention, such as siphons and air-gap structures that cannot be tested, shall be maintained in operable order.

9.1.2 Restricted to Premises

Wastewaters or recharge waters applied to the land surface must be restricted to the premises of the application site. Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the EPA (IDAPA 58.01.16.600.02).

9.1.3 Health Hazards, Nuisances, and Odors Prohibited

Health hazards, nuisances, and odors are prohibited as follows:

Wastewater must not create a public health hazard or nuisance condition (IDAPA 58.01.16.600.03).

No person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution (IDAPA 58.01.01.776.01).

Air Pollution defined as the presence in the outdoor atmosphere of any air pollutant or combination thereof in such quantity of such nature and duration and under such conditions as would be injurious to human health or welfare, to animal or plant life, or to property, or to interfere unreasonably with the enjoyment of life or property (IDAPA 58.01.01.006.06).

9.1.4 Solids Management

Biosolids are the nutrient-rich organic materials resulting from the treatment of sewage sludge. When treated and processed, sewage sludge becomes biosolids that can be safely recycled and applied as fertilizer to sustainably improve and maintain productive soils and stimulate plant growth.

Biosolids generated from sewage sludge are regulated by EPA under 40 CFR Part 503 and require a DEQ approved sludge disposal plan as outlined in IDAPA 58.01.16.650. Contact DEQ before to applying biosolids at any permitted reuse facility.

Sludge is the semi-liquid mass produced and removed by wastewater treatment processes. This does not include grit, garbage, and large solids.

Sludge may be generated by wastewater treatment processes at municipal and industrial facilities. A DEQ-approved sludge disposal plan, as outlined in IDAPA 58.01.16.650, may be required.

Solid waste is any garbage or refuse, sludge from a waste water treatment plant, water supply treatment plant, or air pollution control facility and other discarded material including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges that are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended.

Solid waste does not include inert wastes, manures and crop residues ultimately returned to the soils at agronomic rates, and any agricultural solid waste that is managed and regulated pursuant to rules adopted by the Idaho Department of Agriculture. DEQ reserves the right to use existing authorities to regulate agricultural waste that impacts human health or the environment.

Solid waste is regulated under the "Solid Waste Management Rules" (IDAPA 58.01.06). Wastes otherwise regulated by DEQ (i.e., this permit) are not regulated under IDAPA 58.01.06.

Waste solids include sludge and wastes otherwise regulated by DEQ according with IDAPA 58.01.06.001.03.a.xii. Waste solids may include vegetative waste, silt and mud containing organic matter, and other non-inert solid wastes.

Inert wastes are defined as non-combustible, nonhazardous, and non-putrescible solid wastes that are likely to retain their physical and chemical structure and have a de minimis potential to generate leachate under expected conditions of disposal, which includes resistance to biological attack.

Waste solids require a DEQ approved sludge disposal plan as outlined in IDAPA 58.01.16.650.

9.1.5 Temporary Cessation of Operations and Closure (IDAPA 58.01.17.801)

Temporary cessation of operations and closure must be addressed as follows:

01. Temporary Cessation. A permittee shall implement any applicable conditions specified in the permit for temporary cessation of operations. When the permit does not specify applicable temporary cessation conditions, the permittee shall notify the Director prior to a temporary cessation of operations at the facility greater than sixty (60) days in duration and any cessation not for regular maintenance or repair. Cessation of operations necessary for regular maintenance or repair of a duration of sixty (60) days or less are not required to notify the Department under this section. All notifications required under this section shall include a proposed temporary cessation plan that will ensure the cessation of operations will not pose a threat to human health or the environment. (4-7-11)

02. Closure. A closure plan shall be required when a facility is closed voluntarily and when a permit is revoked or expires. A permittee shall implement any applicable conditions specified in the permit for closure of the facility. Unless otherwise directed by the terms of the permit or by the Director, the permittee shall submit a closure plan to the Director for approval at least ninety (90) days prior to ceasing operations. The closure plan shall ensure that the closed facility will not pose a threat to human health and the environment. Closure plan approval may be conditioned upon a permittee's agreement to complete such site investigations, monitoring, and any necessary remediation activities that may be required. (4-7-11)

9.1.6 Plan of Operation (IDAPA 58.01.17.300.05)

The PO must comply with the following:

05. Reuse Facility Operation and Maintenance Manual or Plan of Operations. A facility's operation and maintenance manual must contain all system components relating to the reuse facility in order to comply with IDAPA 58.01.16 "Wastewater Rules," Section 425. Manuals and manual amendments are subject to the review and approval provision therein. In addition to the content required by IDAPA 58.01.16.425, manuals for reuse facilities shall include, if applicable: operation and management responsibility, permits and standards, general plant description, operation and control of unit operations, land application site maps, wastewater characterization, cropping plan, hydraulic loading rate, constituent loading rates, compliance activities, seepage rate testing, site management plans, monitoring, site operations and maintenance, solids handling and processing, laboratory testing, general maintenance, records and reports, store room and inventory, personnel, an emergency operating plan, and any other information required by the Department. (4-7-11)

9.1.7 Seepage Testing Requirements (IDAPA 58.01.16.493.02.c)

Subsequent Tests. All lagoons covered under these rules must be seepage tested by an Idaho licensed professional engineer, an Idaho licensed professional geologist, or by individuals under their supervision every ten (10) years after the initial testing. (5-8-09)

9.1.8 Ground Water Quality Rule (IDAPA 58.01.11)

The permittee shall comply with the requirements of the "Ground Water Quality Rule" (IDAPA 58.01.11).

9.2 Administrative

Requirements for administration of the permit are defined as follows.

9.2.1 Permit Modification (IDAPA 58.01.17.700)

01. Modification of Permits. A permit modification may be initiated by the receipt of a request for modification from the permittee, or may be initiated by the Department if one (1) or more of the following causes for modification exist: (4-7-11)

a. Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit. (4-7-11)

b. New standards or regulations. The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. (4-7-11)

c. Compliance schedules. The Department determines good cause exists for modification of a compliance schedule or terms and conditions of a permit. (4-7-11)

d. Non-limited pollutants. When the level of discharge of any pollutant which is not limited in the permit exceeds the level which may cause an adverse impact to surface or ground waters. (4-7-11)

e. To correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions. (4-7-11)

f. When a treatment technology proposed, installed, and properly operated and maintained by the permittee fails to achieve the requirements of the permit. (4-7-11)

9.2.2 Permit Transferable (IDAPA 58.01.17.800)

01. General. A permit may be transferred only upon approval of the Department. No transfer is required for a corporate name change as long as the secretary of state can verify that a change in name alone has occurred. An attempted transfer is not effective for any purpose until approved in writing by the Department. (4-7-11)

9.2.3 Permit Revocation (IDAPA 58.01.17.920)

01. Conditions for Revocation. The Director may revoke a permit if the permittee violates any permit condition or these rules, or the Director becomes aware of any omission or misrepresentation of condition or information relied upon when issuing the permit. (4-7-11)

02. Notice of Revocation. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee requests an administrative hearing in writing. The hearing shall be conducted in accordance with IDAPA 58.01.23, Rules of Administrative Procedure

before the Board of Environmental Quality." (5-3-03)

03. Emergency Action. If the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, the Director shall provide the permittee a revocation hearing and prior notice thereof. Such hearings shall be conducted in accordance with IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality." (3-15-02)

04. Revocation and Closure. A permittee shall perform the closure requirements in a permit, the closure requirements of these rules, and complete all closure plan activities notwithstanding the revocation of the permit. (4-7-11)

9.2.4 Violations (IDAPA 58.01.17.930)

Any person violating any provision of these rules or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars ($10,000) or one thousand dollars ($1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor. (4-1-88)

9.2.5 Severability

The provisions of this permit are severable, and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.

10. Other Applicable Laws

DEQ may refer enforcement of the following provisions to the state agency authorized to enforce that rule. The permittee shall comply with all applicable provisions identified in this section. Compliance with this permit does not relieve the permittee from applicable requirements in other federal, state, and local laws, statutes, and rules.

10.1 Owner Responsibilities for Well Use and Maintenance

10.1.1 Well Use

The well owner must not operate any well in a manner that causes waste or contamination of the ground water resource. Failure to operate, maintain, knowingly allow the construction of any well in a manner that violates these rules, or failure to repair or properly decommission (abandon) any well as herein required will subject the well owner to civil penalties as provided by statute. See IDAPA 37.03.09.036.01 and consult the Idaho Department of Water Resources (IDWR) for more information.

10.1.2 Well Maintenance

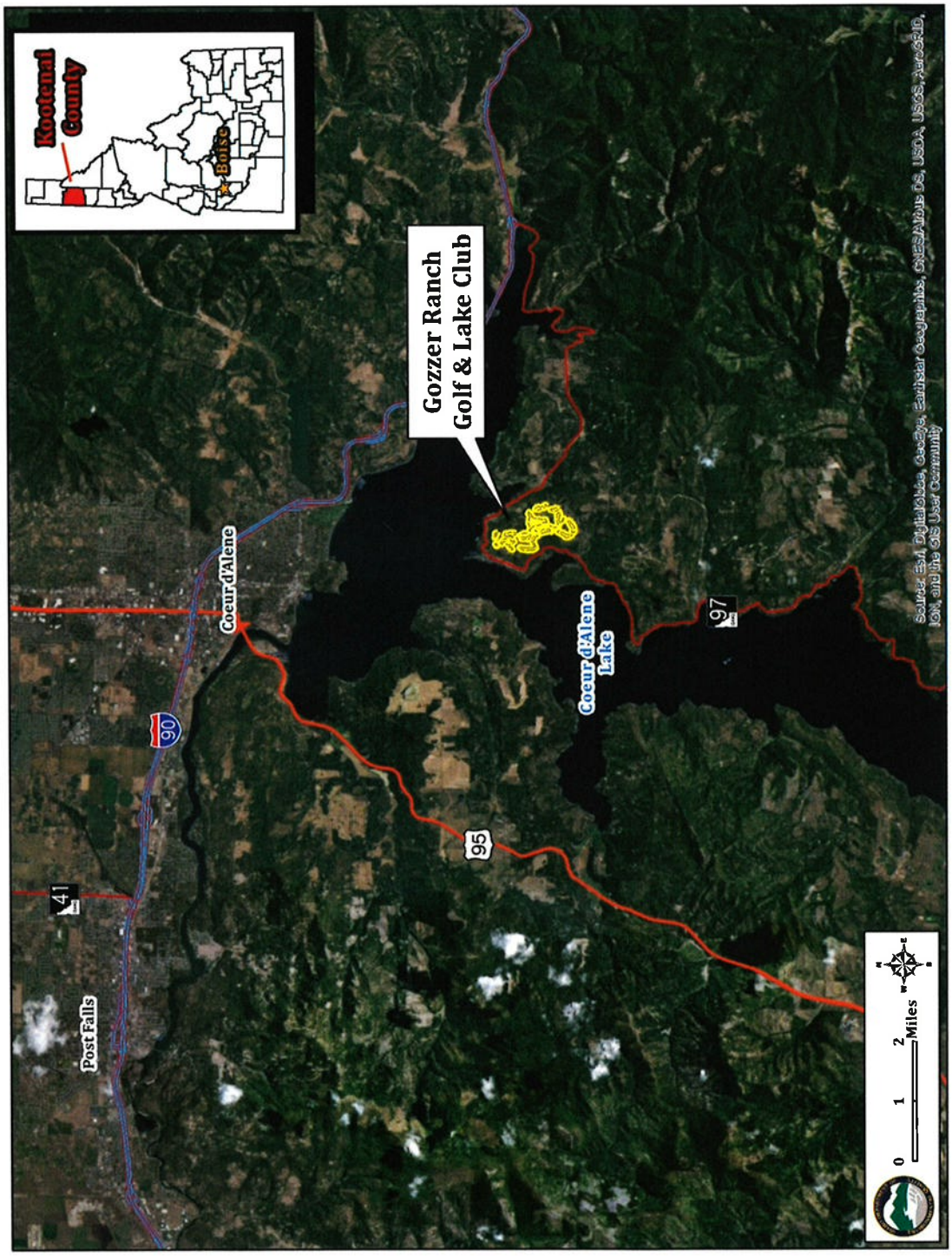
The well owner must maintain the well to prevent waste or contamination of ground waters through leaky casings, pipes, fittings, valves, pumps, seals, or through leakage around the outside of the casings, whether the leakage is above or below the land surface. Any person owning or controlling a noncompliant well must have the well repaired by a licensed well driller under a permit issued by the IDWR director according to the applicable rules. See IDAPA 37.03.09.036.02 and consult IDWR for more information.

10.1.3 Wells Posing a Threat to Human Health and Safety or Causing Contamination of the Ground Water Resource

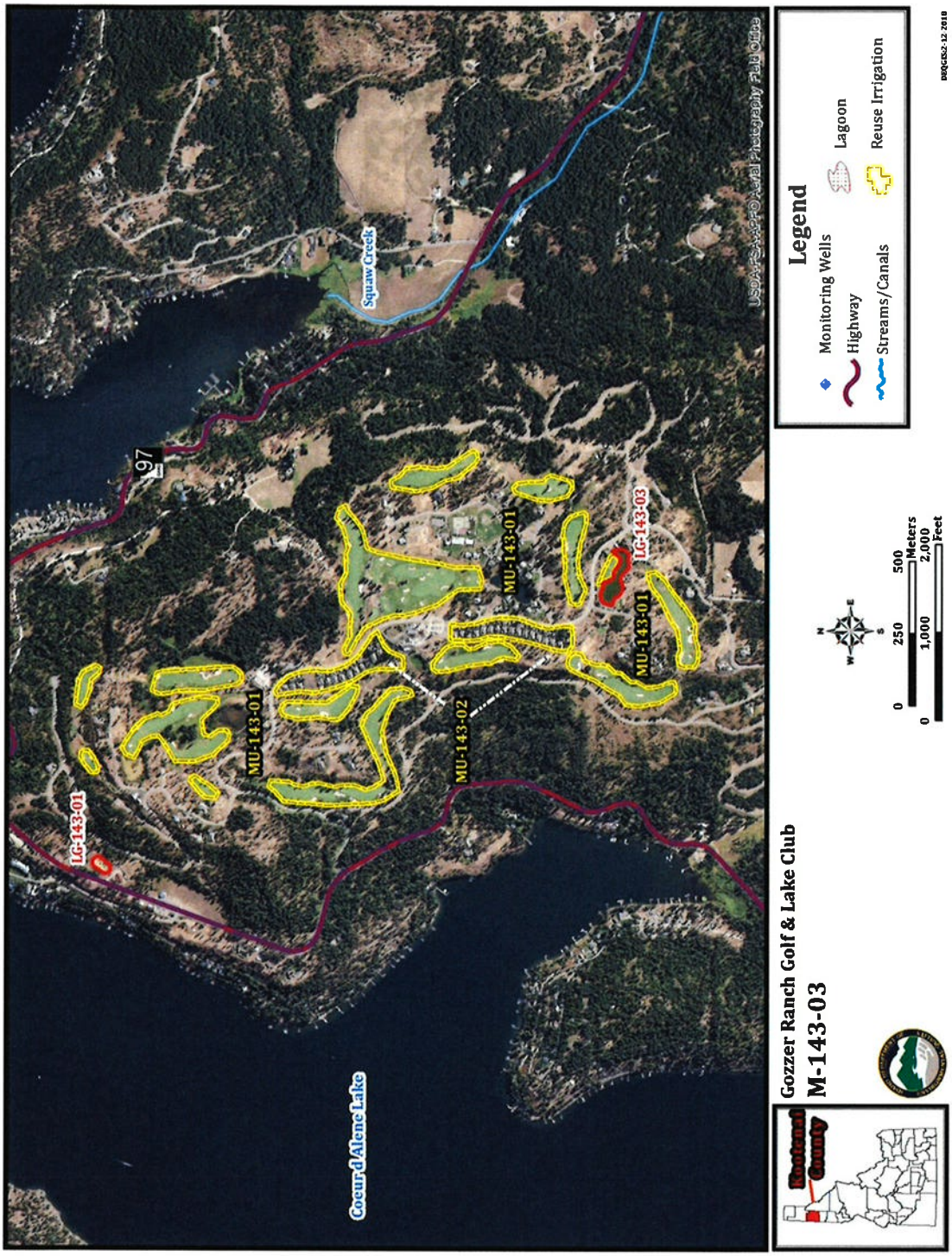
The well owner must have any well shown to pose a threat to human health and safety or cause contamination of the ground water resource immediately repaired or decommissioned (abandoned) by a licensed well driller under a permit issued by the IDWR director according to the applicable rules. See IDAPA 37.03.09.036.06 and consult IDWR for more information.

11. Site Maps

11.1 Regional Map



11.2 Facility Map(s)



MEMORANDUM

TO: Larry Waters, PE, Wastewater Program Manager, State Office
Daniel Redline, Regional Administrator, Coeur d'Alene Regional Office
Matthew Plaisted, PE, Engineering Manager, Coeur d'Alene Regional Office
Adam Bussan, PE, Wastewater Program Reuse Engineer, State Office

FROM: Andrew John, Environmental Scientist, Technical Services Division
Judy Johnson, Wastewater Reuse Scientist, Technical Services Division

DATE: June 6, 2018

SUBJECT: M-143-03, Gozzer Ranch Golf and Lake Club, Staff Analysis Supporting Reuse Permit Issuance

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Executive Summary

Gozzer Ranch houses a municipal wastewater treatment system producing Class A recycled water that is applied on two irrigation sites, referred to as management units (MUs). The facility began operating the seasonal irrigation system in 2007. It is classified as a Class I collection system and a Class III treatment system. Wastewater is disinfected before irrigation use to Class A standards and is applied to 300 acres of golf course and private residential lots. The influent flow design capacity is 48 million gallons annually (MGA). For reporting years 2012 through 2016, the facility's average influent and effluent was 8.6 and 6.1 MGA, respectively. During that time, the facility re-treated an average of 2.9 MGA from the bypass lagoon. Recycled water was only applied during the growing season, which is April 15 through October 31.

Major changes to the draft permit (M-143-03) proposed by the Idaho Department of Environmental Quality (DEQ) include the following:

- Include a compliance activity that requires the facility to determine the status of all drinking water wells located within 50 feet of the reuse site.
- Remove surface water buffer zone distances because the facility is Class A.
- Remove the additional chlorination disinfection requirement when the facility is not sampling total coliform.
- Include a statement that prohibits the facility from discharging recycled water to the emergency bypass lagoon for any purposes other than emergency storage of off specification water. If the permittee wishes to use the emergency bypass pond for normal operations, they must submit to DEQ an update to the Welch-Comer June, 2005 Preliminary Technical Report for Land Application to re-assess the adequacy of the emergency bypass storage lagoon for use under normal operating conditions. The report must include a maximum volume that can be diverted to the lagoon for non-emergency use that will allow for adequate emergency storage.

- Include the effluent pump station vault flow meter as a new monitoring point to monitor recycled water flow to the golf irrigation pond.

Facility inspections during this permit cycle have demonstrated substantial compliance with reuse permit limits and conditions (DEQ 2013; DEQ 2015). No changes to the MUs are proposed at this time.

Staff recommends re-permitting this facility for a 10-year term. This staff analysis serves as the basis for the recommendation to issue reuse permit M-143-03.

1 Introduction

This memorandum satisfies the requirements of the "Recycled Water Rules" (IDAPA 58.01.17.400) for issuing reuse permits. The principal facts and significant questions considered in preparing the draft permit and a summary of the basis for the draft permit conditions are provided.

Gozzer Ranch houses a municipal wastewater treatment system producing Class A recycled water that is applied on two irrigation sites, referred to as management units (MUs). The facility began operating the seasonal irrigation system in 2007. It is classified as a Class I collection system and a Class III treatment system. Wastewater is disinfected before irrigation use to Class A standards and is applied to 300 acres of golf course and private residential lots. The influent flow design capacity is 48 million gallons annually (MGA). For reporting years 2012 through 2016, the facility's average influent and effluent was 8.6 and 6.1 MGA, respectively. During that time the facility re-treated an average of 2.9 MGA from the bypass lagoon. Recycled water was only applied during the growing season, which is April 15 through October 31.

The facility submitted an initial permit application (Welch-Comer 2005) to the Idaho Department of Environmental Quality (DEQ) on June 24, 2005. DEQ accepted the application as complete and approved the plans and specifications for the wastewater treatment plant and reuse facility on August 1, 2005. Construction was completed in 2007, and recycled water application began under reuse permit LA-000143-01, issued April 27, 2007 to Discovery Coeur d'Alene Investors, LLC for Gozzer Ranch.

The collection and treatment facility were sold to the North Kootenai Water and Sewer District (NKWSD) in 2008. On July 17, 2008, permit LA-000143-01 was transferred to NKWSD, and expired on April 27, 2012 (DEQ 2007a, p. 3; DEQ 2007b). DEQ received an application for re-permitting the facility on October 26, 2011, and reuse permit WRU M-143-02 was issued on June 28, 2012 and expired on June 28, 2017 (DEQ 2012a section 2, p. 1; DEQ 2012b).

DEQ received an application for permit renewal on January 25, 2017 (Messier 2017a), and on April 16, 2017 the application was accepted as substantially complete. DEQ issued the Preliminary Decision to Issue the draft permit on February 5, 2018. Per the following provision provided by the Recycled Water Rules (IDAPA 58.01.17.500.10.a), permit WRU M-0143-02 is administratively extended until permit M-143-03 can be issued:

A timely and sufficient application for permit renewal shall administratively extend the terms and conditions of an expired permit pursuant to Section 67-5254, Idaho Code. An application shall be considered timely and sufficient under these rules so long as the Department has determined the application is complete under Subsection 400.02 and the application's effective date under Subsection 400.02.a is prior to the expiration of the current permit.

2 Site Location and Ownership

Gozzer Ranch is a 600 acre residential community located south of Arrow Point and 8 miles north of Harrison in Kootenai County, on Lake Coeur d'Alene (DEQ 2007a, p. 1; GR 2013; Morse 2008). The application site consists of 122 acres of golf course and 8 acres of residential lots along the golf course (DEQ 2012b section 4, p.7). Road access is via Highway 97, which encircles the Gozzer Ranch and Arrow Point developments. The legal description for the treatment facility and land application site is Township 49N, Range 3W, Sections 5, 6, 7, and 8, Boise Meridian, which is located in the United States Geological Survey (USGS) Quadrangle of Mica Bay (Messier 2017a, p. 3; USGS 2017). Figure 1 and Figure 2 show regional and facility maps for the reuse site. Please note the following addresses for the facility:

Mailing Address: 13649 N. Meyer Road
Rathdrum, Idaho 83858

Facility Address: 23749 Hwy 97
Harrison, ID 83833

The NKWSD owns and manages the collection system, treatment facility, and the bypass storage lagoon (LG-0143-01). The Class A recycled water produced by the treatment facility is transferred to the Gozzer Ranch golf irrigation pond (LG-0143-03), at which point the recycled water becomes the responsibility of the Gozzer Ranch Golf and Lake Club management. NKWSD is required to maintain an agreement with the Gozzer Ranch Golf and Lake Club stating that they understand the origin of the recycled water and concept of agronomic rate for applying the recycled water (DEQ 2012b section 4.5, p. 10).

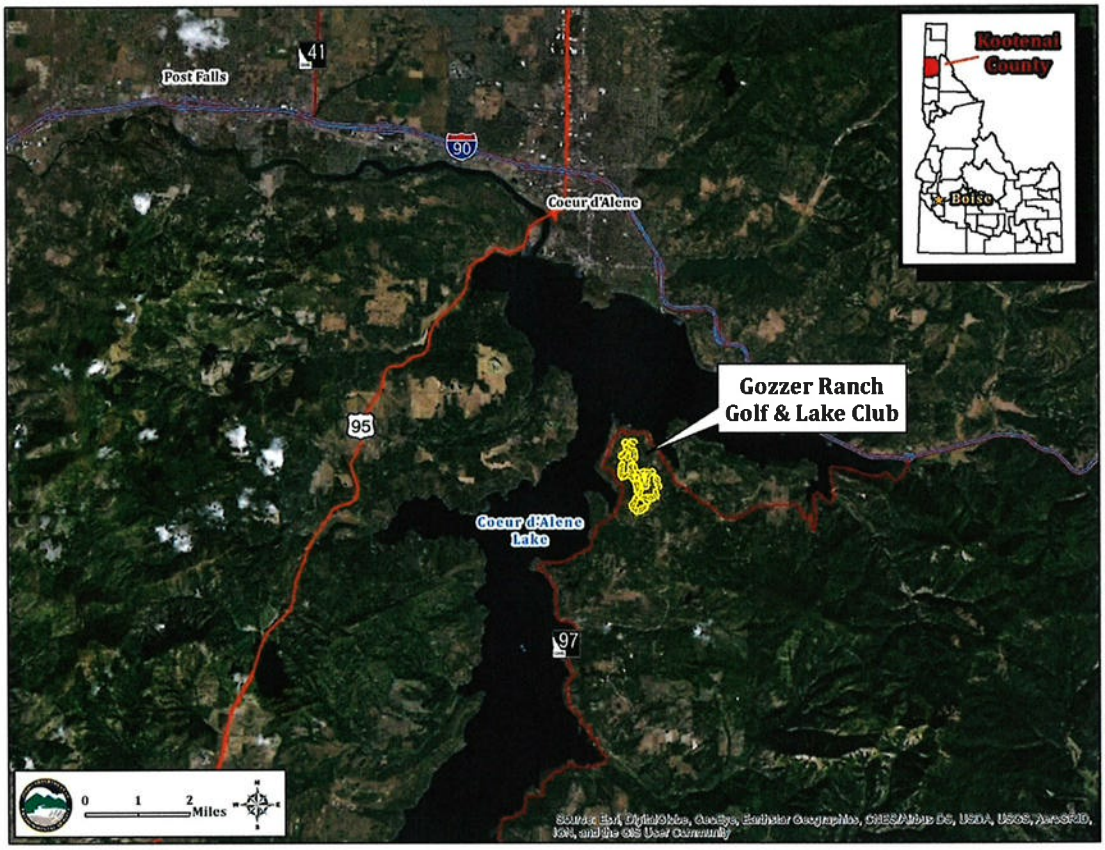

Figure 1. Gozzer Ranch Golf and Lake Club regional map.

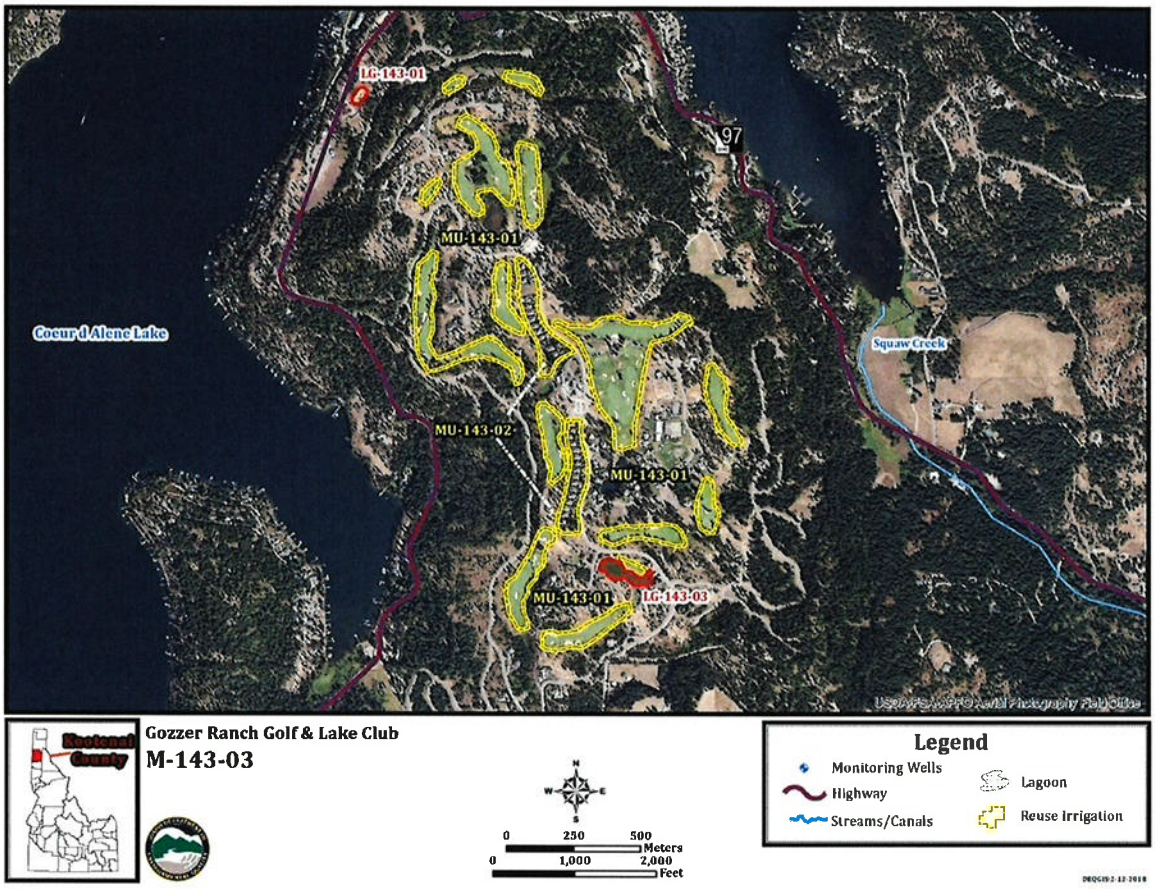

Figure 2. Gozzer Ranch Golf and Lake Club MUs.

3 Process

The wastewater treatment system provides service to the Gozzer Ranch and Arrow Point communities. There are currently 251 equivalent residential units (ERUs) connected to the system which is designed to accommodate up to 583 ERUs with a maximum build out flow of 140,000 gallons per day (GPD). A total of 7.8 MG of recycled water was transferred to the Gozzer Ranch Golf Irrigation Pond during 2016 (Messier 2017b). The Gozzer Ranch facility consists of seven subsystems that are shown in Table 1 (NKWSD 2017a).

Table 1. Gozzer Ranch collection sub-systems.

Subsystems
Arrow Point
Arrow Point Park
Arrow Point Village Condominiums
Kootenai County Fire & Rescue, Station 8
Mountain Lake Ridge
Crystal Sunset
Arrow Point Commercial

The collection and wastewater treatment systems consist of septic tank effluent gravity (STEG) collection to serve Gozzer Ranch and one lift station with a pressure main delivery system to serve Arrow Point. The treatment system is a packaged wastewater treatment facility that has three equalization basins, a membrane bio-reactor (MBR), and a ultra-violet (UV) disinfection unit (DEQ 2012a, p. 9). A schematic for the wastewater treatment process is shown in Figure 3.

Effluent from the STEG and Arrow Point lift station pressure main is discharged into one of three 7,200-gallon capacity equalization basins. Effluent from the equalization basins is pumped via two 132 gallons per minute (gpm) pumps to a 2-mm screening device on top of the MBR unit. Screened wastewater is then sent through a 14-feet diameter by 60-feet-long cylindrical epoxy-coated steel tank containing one third anoxic and two thirds aerobic zones with associated recirculation pumps and aeration bubblers. The capacity of the tank is approximately 70,000 gallons. Following biological treatment, the wastewater is filtered through 144 US Filter hollow fiber membrane modules with a maximum pore size of 0.1 microns. Suction pumping is used to pull wastewater into the hollow fibers which then discharges to the UV disinfection system. The UV disinfection system can achieve 5-log virus inactivation. Waste activated sludge (WAS) is purged from the bioreactor and membrane filters as necessary and stored in a 50,000-gallon capacity buried concrete sludge tank located outside of the treatment building (DEQ 2007a, pp. 3–4; DEQ 2012a, p. 9). Removal of the WAS from the tank and transportation to an appropriate disposal site occurs annually in accordance with the approved Waste Solids Management Plan (NKWSD 2011).

The facility is designed to meet the requirements to produce Class A effluent, as defined by the Recycled Water Rules (IDAPA 58.01.17.601.01). Classification as Class A recycled water requires the treatment system to provide redundancy and reliability. For redundancy, the influent pumps, anoxic return pump, mixed liquor return pump, effluent pump, plant wash water pump, and golf course effluent pump either have a spare pump already installed or there is a spare pump stored at the facility that can be replaced quickly. There is a spare anoxic mixer stored on site. There are two separate membrane filtration tanks with two sets of racks installed in each, which can operate independently. There are three units in the UV disinfection system, but only two units are required to be operational at any given time. Although not in the initial design, the facility has been injecting chlorine after UV for additional disinfection. For reliability purposes, the system has on-site standby power in case of a power outage. Also, the system has a continuously recording turbidimeter that detects turbidity violations and automatically diverts the off specification recycled water to the bypass storage lagoon until compliance with Class A standards has been re-established. The bypass storage lagoon is equipped with a return flow pump which sends the recycled water back to the equalization basins for re-treatment (DEQ 2007a, pp. 3–4; DEQ 2012a, pp. 2–9; DEQ 2012b section 4.5, p. 9).

After disinfection, the recycled water is pumped to the golf irrigation pond. The golf irrigation pond is lined and has a capacity of 7.8 MG. The recycled water is then mixed with supplemental irrigation water (SIW) from Lake Coeur d'Alene as well as ground water from a ground water interceptor. The ground water interceptor directs ground water away from the facility's nearby drinking water treatment system to prevent flooding of the drinking water treatment area. The recycled water stored in the golf course lagoon is used to irrigate the golf course and the 34 residential lots located along the golf course. The recycled water loading to the MUs is

determined by golf course management staff.

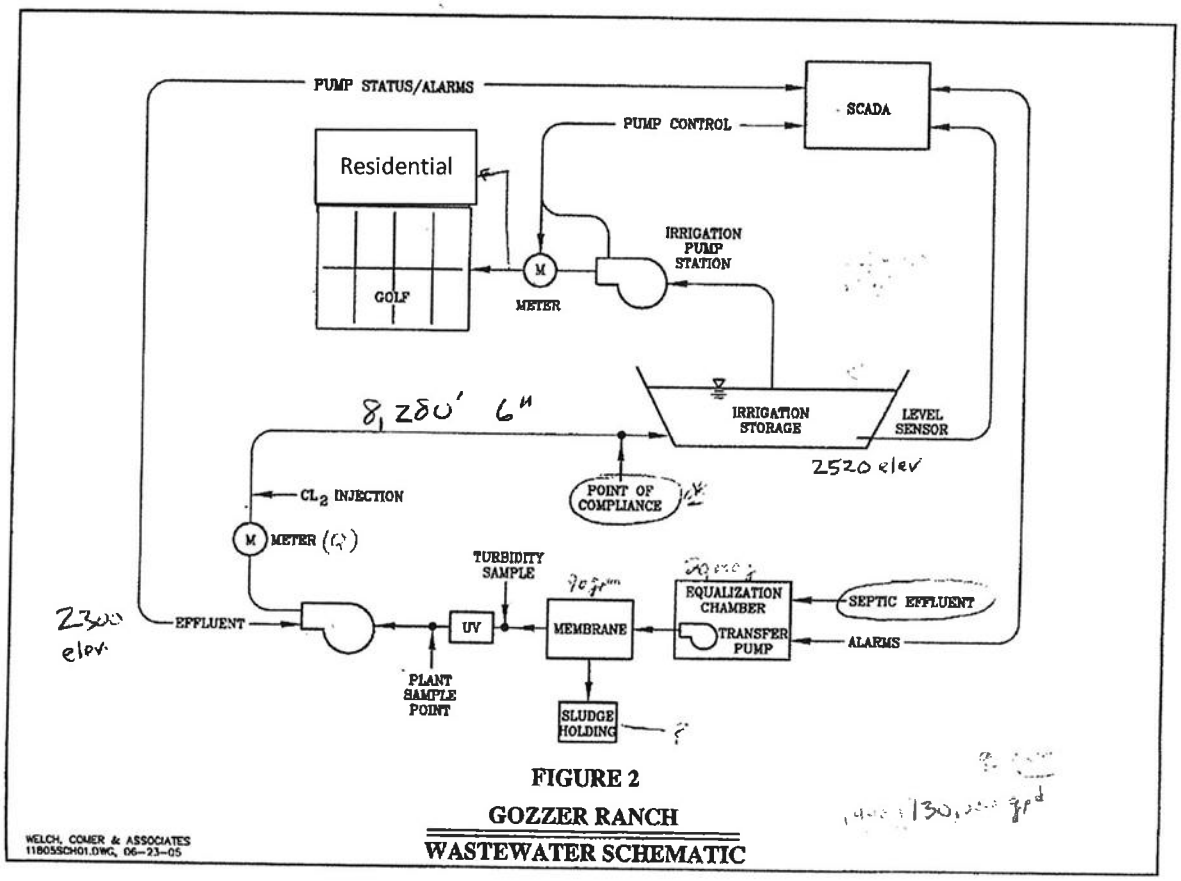

Figure 3. Gozzer Ranch facility wastewater treatment diagram.

4 Site Characteristics

4.1 Site Management History

A wastewater treatment and reuse system was installed when Gozzer Ranch was developed in 2007. Discovery Coeur d'Alene Investors, LLC converted the forested acreage to the existing Gozzer Ranch and Arrow Point developments. The MUs consist of a landscaped golf course containing mild to fairly steep slopes, and 34 residential lots along the golf course (Table 2; AMT 2004, p. 9; DEQ 2012b, section 4, p. 7). The collection and treatment systems were sold to NKWSD and on July 17, 2008 the existing permit was transferred (Section 1).

Table 2. Gozzer Ranch Golf and Lake Club MUs with identification number, description, and acreage.

Serial Number	Description	Acres
MU-143-01	Gozzer Ranch Golf Course	122
MU-143-02	34 private residential lots along the Gozzer Ranch Golf Course	8
	Total Acreage	130

In 2013, an Odor Control System was installed near Eddie's Bar and Grill at Arrow Point, and in 2015, the internal piping in the Arrow Point lift station was replaced and a back-up pump was installed.

4.2 Climatic Characteristics

The closest weather station to the facility is at the Coeur d'Alene Airport located about 3.8 miles north of the MUs (Morse 2008). The Coeur d'Alene 1 E weather station (101956) has a longitude of 116° 45' West and latitude of 47° 41' North. The average annual precipitation is 25.26 inches per year, of which 15.8 inches occur during the non-growing season (November 1 through April 14). Average snowfall is 46.0 inches. The annual average maximum temperature is 59.1°F, and annual average minimum is 36.8°F. The elevation is 2,160 feet above mean sea level. Additional meteorological data are found at *http://wrcc.dri.edu/summary/climsmid.html* (WRCC 2018).

The wind direction is predominately from northeast November through March and south-southeast/northeast April through October. Average wind speed ranges from <5 knots (kts) to a little over 10 kts. Average annual wind speed and frequency by direction are shown in Figure 4.

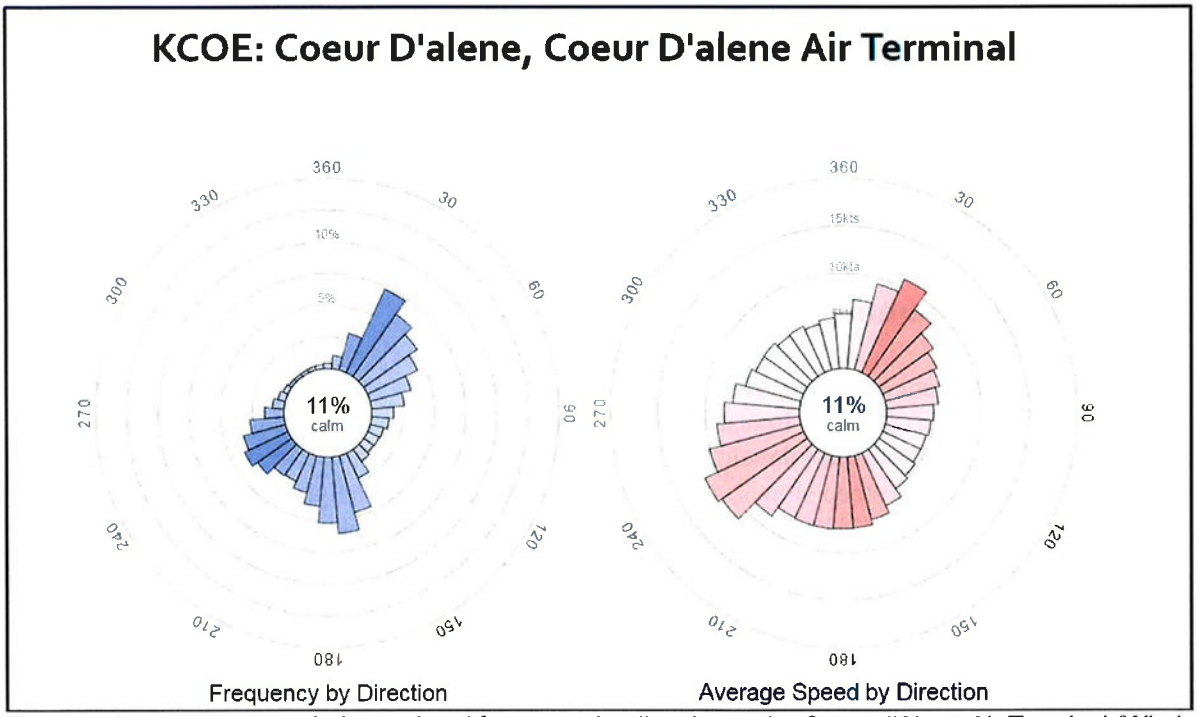

Figure 4. Annual average wind speed and frequency by direction at the Coeur d'Alene Air Terminal (Wind History 2011).

4.3 Soils

Soils on the MUs are Dorb silt loam, and Lacy gravelly loam (Map Unit no. 117 and 135). The soil parent material consists of colluvium (soil that accumulates at the base of a hill) over bedrock that is derived from basalt. Both soils predominate on hills with slopes of 5% to 35% (NRCS 2017).

The available water holding capacity for this soil is approximately 3.4 inches and is from 19 to 30 inches in depth before reaching a soil restrictive layer. The pH is generally acidic, and there is a medium sensitivity to pH change (NRCS 2017). Soils are at high risk of water and wind erosion, and a medium potential for leaching (DEQ 2007c section 2.1.2.2, Table 2-1, p. 9).

4.4 Surface Water

The nearest surface water bodies are multiple freshwater ponds, adjacent to the golf course (Appendix A, Figure 10). With the exception of the golf irrigation pond, these water bodies existed prior to the construction of the golf course.

The nearest major surface water body is Lake Coeur d'Alene which surrounds the Gozzer Ranch and Arrow Point development and is approximately 0.3 miles from the MUs. Lake Coeur d'Alene is designated for cold water aquatic life, salmonid spawning, domestic water supply, and primary contact recreation (IDAPA 58.01.02.110.10). Lake Coeur d'Alene is 2,125 feet above mean sea level (USGS 2017). The Gozzer Ranch development is located outside of any floodplains (FEMA 2010).

4.5 Ground Water/Hydrogeology

The facility's geotechnical engineering evaluation indicates that the geology beneath the reuse site is typically characterized by massive Columbia River Basalts of the Priest River Rapids Member (AMT 2004, p. 3). This basalt formation can be interbedded with the Latah formation, which is siltstone formed from silt and fine-grained sediments (Boese et al. 2015 section 3, p. 5).

The geotechnical engineering evaluation noted that a review of well logs in the area showed ground water depth at 150 to 200 feet (AMT 2004, p. 3). When digging test pits around the site, ground water was encountered at 2.0 to 6.5 feet in some of the pits (AMT 2004, p. 4). These are likely perched water tables overlaying dense basalt.

A 120 feet deep IDWR well (2021), located approximately 1 mile west of the lagoon, had average nitrite+nitrate-N concentrations of 0.045 mg/L (2002–2012; IDWR 2018b). This well services the Echo Bay Terrace subdivision.

4.6 Recycled Water Characterization and Loading Rates

This section discusses recycled water characterization, and hydraulic and constituent loading rates.

4.6.1 Recycled Water Characterization

The facility produces Class A recycled water and as such, there are limits on turbidity, total nitrogen (N), BOD_5, total coliform, and pH (DEQ 2012b section 4.5, p. 10). The facility exceeded the daily arithmetic mean limit for turbidity (0.2 NTU) a few times during the permit cycle (Figure 5). In contrast, the facility exceeded the daily maximum turbidity limit (0.5 NTU) numerous times during the permit cycle. This was especially the case between 2013 and 2015 (Figure 6). When turbidity limits are exceeded, the facility automatically diverts wastewater to the bypass storage lagoon and then it is pumped back for re-treatment. New membranes were installed in January 2016 and the installation appears to have corrected turbidity issues (NKWSD 2017b; Figure 5 and Figure 6).

Between 2012 and 2016, the average total-N concentration in effluent was 16.2 mg/L. The facility exceeded the monthly average total-N limit (30 mg/L) three times (Figure 7).

The permit limits pH in effluent to between 6.0 and 9.0, based on grab samples collected five times per week (DEQ 2012b section 4.5, p. 10). Between 2012 and 2016, the pH fell below that range multiple times. In general, there appears to be marked seasonality in pH values, with lower values during colder months and higher values during warmer months.

In July of 2012, the facility reported multiple total coliform exceedances to DEQ. After this month, there were no other total coliform exceedances for the remainder of the permit cycle.

DEQ staff recommends the facility be required to submit an updated Plan of Operation (PO) and Quality Assurance Project Plan (QAPP) as compliance activities in permit M-143-03. These documents should outline procedures for when off specification recycled water is detected.

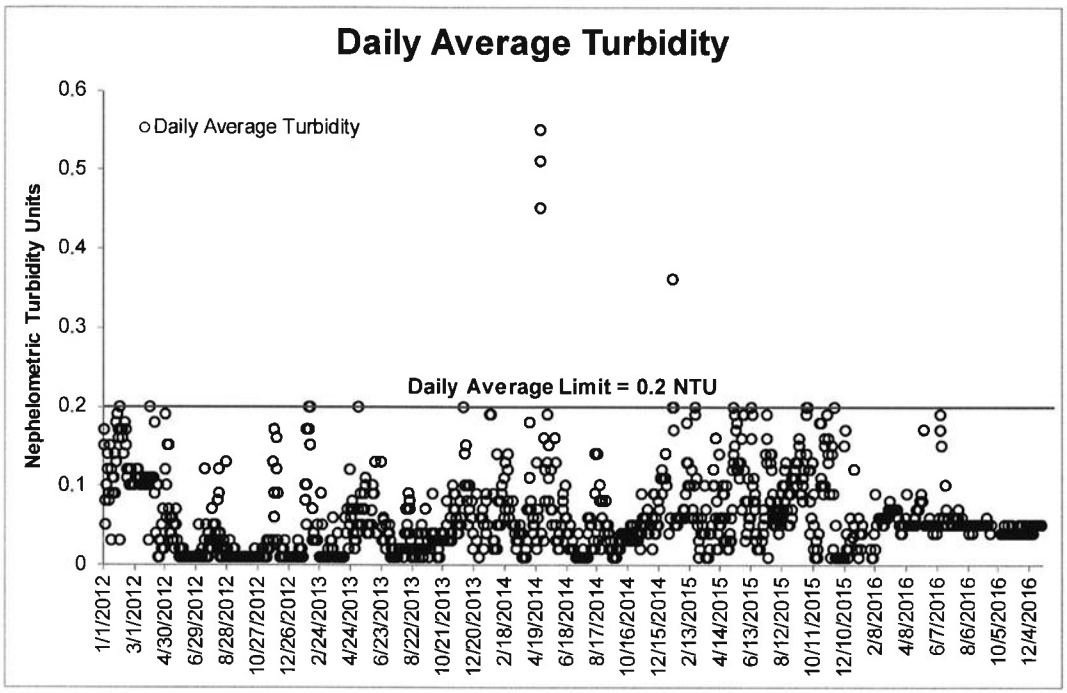

Figure 5. Daily average turbidity between 2012 and 2016 compared to the permit limit. *Source:* GR 2017.

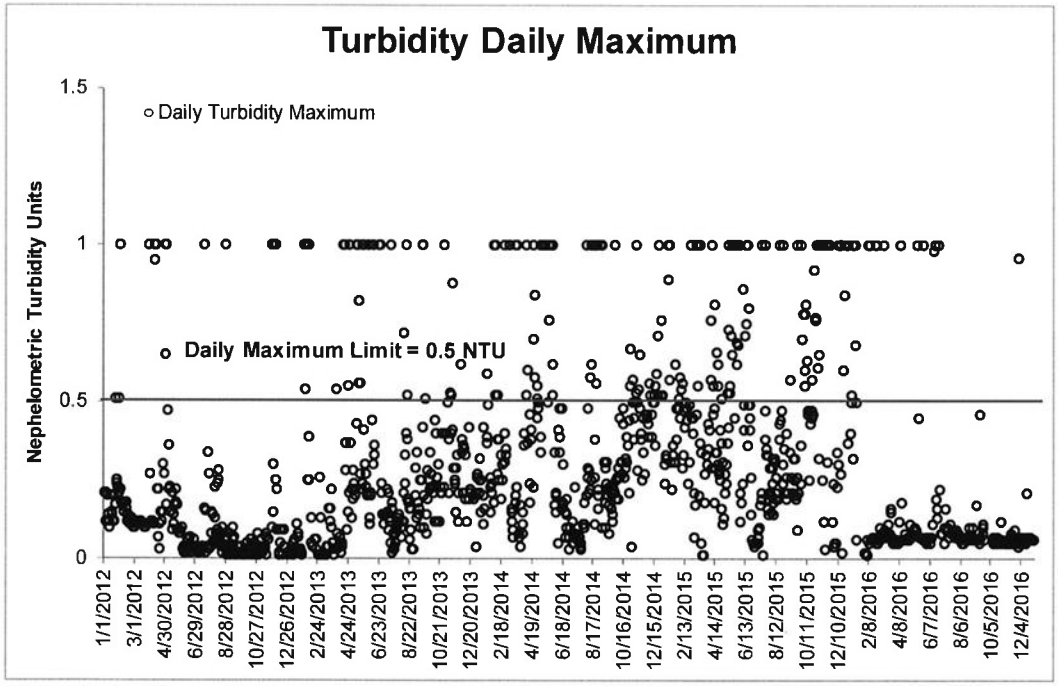

Figure 6. Maximum daily turbidity between 2012 and 2016 compared to the limit. *Source:* GR 2017.

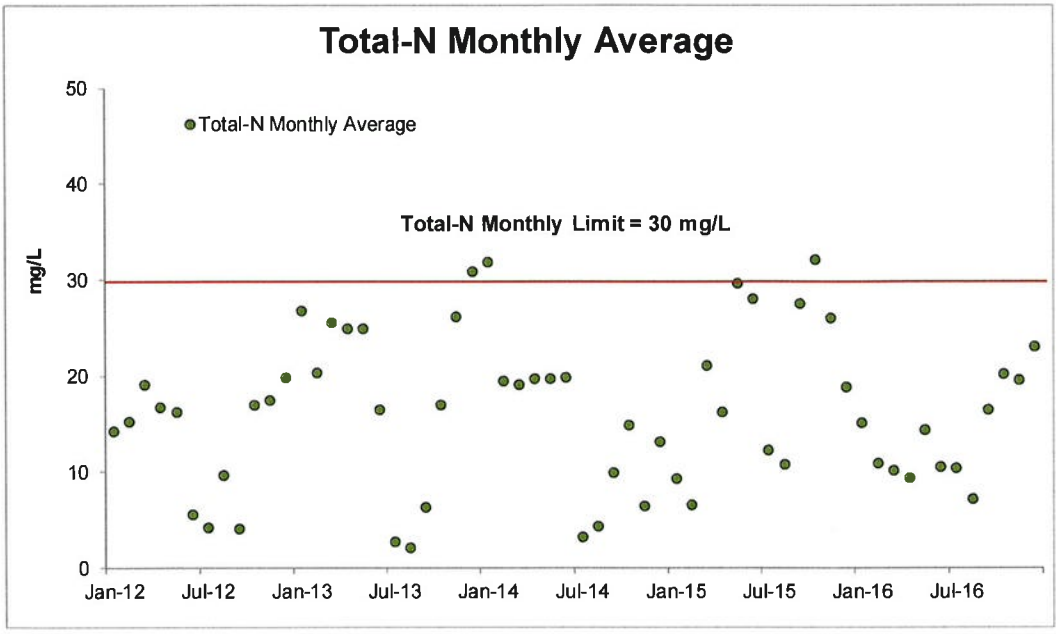

Figure 7. Average monthly total-N in effluent compared to the permit limit. *Source:* GR 2017.

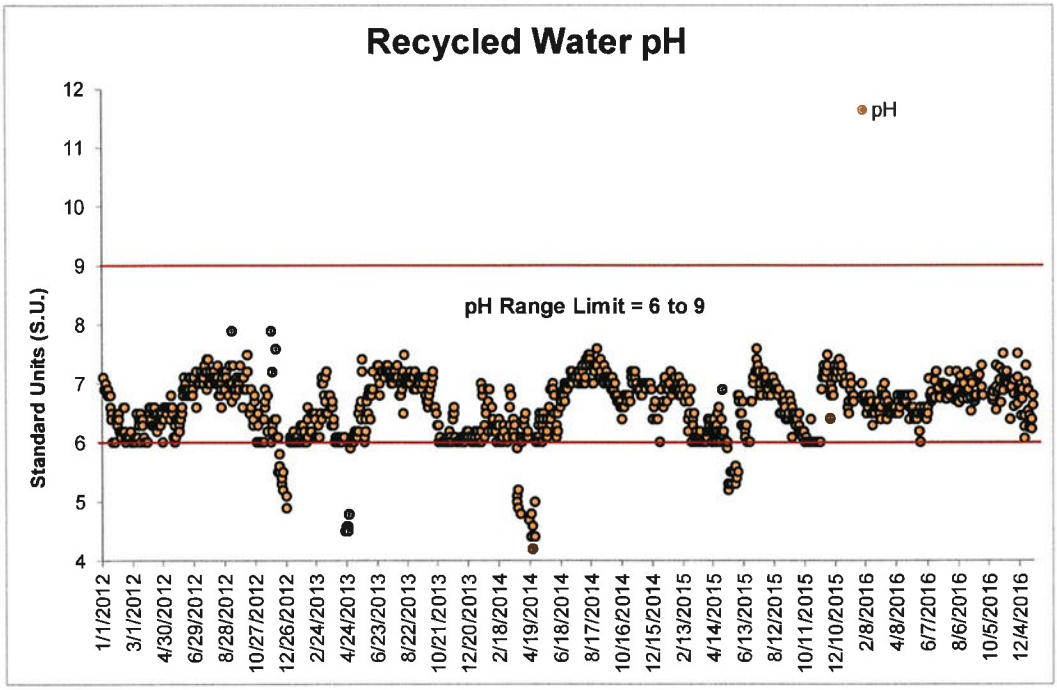

Figure 8. Daily pH values in effluent between 2012 and 2016, compared to the range limit. *Source:* GR 2017.

4.6.2 Hydraulic Loading Rates

Permit WRU M-0143-02 does not specify a hydraulic loading limit for MUs (DEQ 2012b section 4.2, p. 7), and the facility is not required to monitor flows to the MUs (DEQ 2012b

section 5, p. 11). The facility does monitor recycled water flow to the golf irrigation pond (LG-143-03) and pumped an average of 6.1 MGA to the pond during the WRU M-0143-02 permit cycle (Table 3). Daily average influent and effluent flows during the WRU M-0143-02 permit cycle were 35,386 and 24,715 gallons, respectively.

Table 3. Annual wastewater flow volumes at the Gozzer Ranch treatment facility.

Year	Influent Flow (MG)	Effluent Flow (MG)	Bypass Lagoon Flow to Equalization Pond (MG)	Diverted Waste Activated Sludge (MG)
2012	8.4	6.0	2.2	0.019
2013	7.5	5.4	2.2	0.019
2014	8.3	6.0	1.6	0.0
2015	8.1	5.4	2.2	0.019
2016	11	7.8	6.4	0.0

Source: GR 2017

It is recommended that the permit not include a hydraulic loading limit for MUs during the growing season and specify that non-growing season application of recycled water not be allowed. DEQ staff recommends permit M-143-03 require the permittee establish and maintain a utility user agreement with the golf course. The utility agreement was a requirement of the previous permit and DEQ understands that this agreement has been established between the NKWSD and the Gozzer Ranch Golf and Lake Club. This requirement should be included in permit M-143-03 to ensure that the utility agreement continues to exist between the parties and is amended as necessary, stating the following:

The permittee is required to establish and maintain a utility agreement with any entity that will utilize the Class A effluent produced by the permittee for irrigation. The utility agreement must state that the user understands the origin of the effluent and the concept of agronomic rate for applying the Class A recycled water.

There appears to be marked seasonality in flows through the wastewater treatment plant between 2012 and 2015, where flows are lowest during colder months and highest during warmer months (Figure 9). This is likely due to an increase in the number of occupants at each of the Gozzer Ranch collection sub-systems during warmer months (Table 1). The marked seasonality was not observed during the 2016 reporting year; instead, flows were notably high in early spring and November. It is unclear why influent flow was different that year.

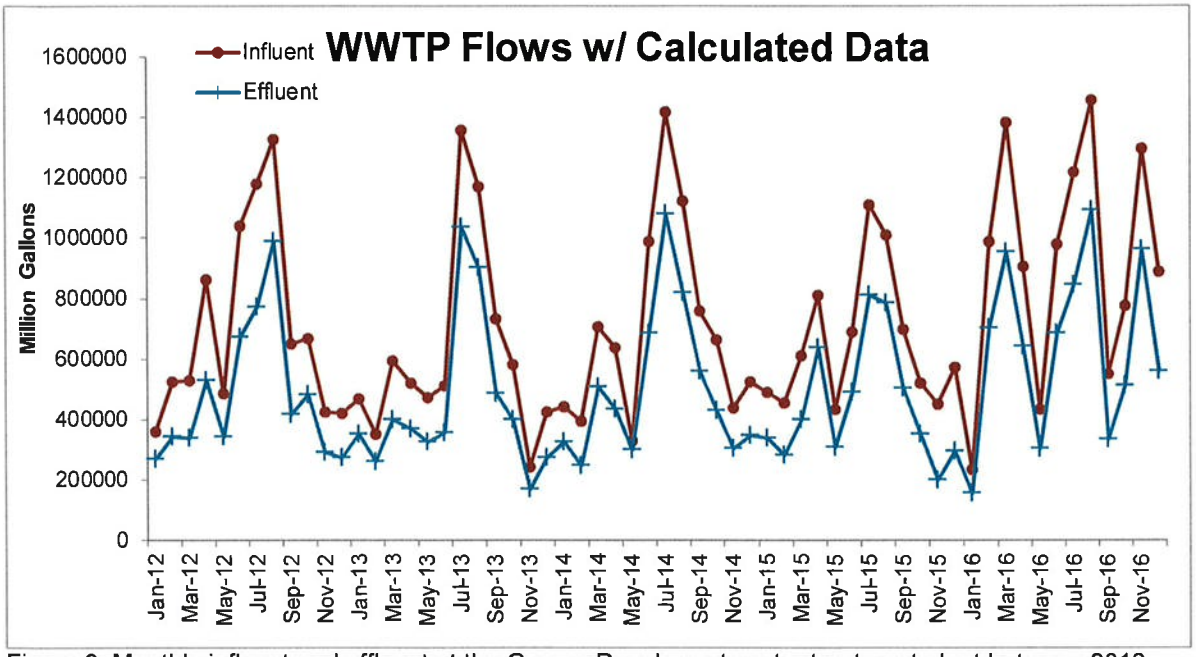

Figure 9. Monthly influent and effluent at the Gozzer Ranch wastewater treatment plant between 2012 and 2016. Monthly flows calculated from daily reported values. *Source:* GR 2017.

4.6.3 Constituent Loading Rates

The permit does not require the facility to monitor recycled water flow to the MUs and, therefore, constituent loading rates cannot be calculated. However, in the facility's original technical report, it was estimated that the golf course would require a hydraulic loading rate of 500,000 gpd between mid-April and mid-September (Welch-Comer 2005). This equates to approximately 76.5 MG needed for the irrigation season. Using this information and average total-N and total-P concentrations in irrigation water (collected in 2012), DEQ staff estimated that the facility applies at least 4.3 lb/ac and 0.8 lb/ac of total-N and total-P, respectively. The facility's nutrient management plan (NMP) shows a highest estimated irrigation volume of 79.9 MG, which equates to 4.4 lb/ac total-N loaded and 0.8 lb/ac total-P loaded (NKWSD 2016).

The estimated nutrient loading to the reuse site from recycled water is relatively low and the facility applies supplemental fertilizer to manage the turf grass. DEQ staff does not recommend constituent loading limits be included in permit M-143-03.

5 Site Management

5.6 Buffer Zones

Buffer zones for protection of surface water, ground water, drinking water supplies, and the public are required by IDAPA 58.01.17.604. The DEQ "Municipal Reuse System Buffer Zone Guidance" (DEQ 2015) provides recommended buffer distances for various reuse scenarios. For this permit, the following scenario (E) was used for determining buffer distances: municipal, Class A, residential area, sprinkler irrigation. It is recommended that the buffer zone restrictions specified in permit WRU M-0143-02 be included in permit M-143-03. A summary of buffer zones is shown in Table 4.

Table 4. Required, recommended, and actual buffer zone distances at the Gozzer Ranch reuse site.

Features	Existing Permit Buffer Requirements	Guidance Buffer Zone Requirements	Actual Reuse Area
Nearest Inhabited Residence	0 feet	0 feet	0 feet – MU-143-02 residential lawns
Nearest Public Water Systems (PWS)	50 feet	50 feet	>1,000 feet – Two Arrow Point wells.
Nearest Private Water Supply	50 feet	50 feet	<50 feet – Two residential wells
Areas Accessible to the Public	0 feet	0 feet	0 feet – Golf course access points
Nearest Surface Water	100 feet	Set based on site conditions	0 feet – Multiple ponds located on the golf course
Nearest Irrigation Ditches/Canals	50 feet	Set based on site conditions	Irrigation surface water structures are not in the vicinity.
Fencing	None Required	None Required	No fencing
Posting	Signs shall be posted around the golf irrigation pond and notification shall be provided to users of the golf course that the golf course is irrigated with recycled water	"Warning Recycled Water – Do Not Enter" or equivalent in English and Spanish	Signs posted around the irrigation pond that say "Warning Reclaimed Water – Do Not Drink"

As shown in Table 4, all but two of the existing buffer zone distances satisfy the buffer zone requirements in permit WRU M-0143-02. Based on information from the Idaho Department of Water Resources, there are two private water supply wells located less than 50 feet from the MUs (IDWR 2018a; Table 5). It is not known if these two wells are still in use because the Gozzer Ranch community utilizes treated surface water from Lake Coeur d'Alene for drinking water (DEQ 2012a section 4.3, p. 5). Considering the facility is applying high quality Class A recycled water and wells are >400 feet deep, impacts to these wells from reuse site operations is not expected. However, DEQ recommends the facility determine the status of all drinking water wells (public and private) located within 50 feet of the reuse site and associated MUs as a compliance activity. Any future drilled wells should have appropriate buffer distances from the reuse site.

Table 5. Private water supply wells located within 50 feet of the reuse site.

Well ID	Owner	Well Depth (feet)	Distance from Reuse Site (feet)
272915	Holte, L	445	~35
17819	Finney, J	485	<5

Data Source: IDWR 2018a

There are freshwater ponds closer than 100 feet from the facility's MUs (Table 4). However, it is recommended that surface water buffer distances be removed from permit M-143-03 because the Recycled Water Rules do not require them for a Class A facility (IDAPA 58.01.17.602.02). It is recommended that the following statement be provided as a footnote in the buffer zone section of the draft permit:

Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the U.S. Environmental Protection Agency (IDAPA 58.01.16.600.02).

The Idaho Pollutant Discharge Elimination System (IPDES) program expects to replace EPA as the contact for surface water discharges on July 1, 2018 for municipal facilities and 2019 for industrial. References to the National Pollutant Discharge Elimination System (NPDES) in the permit will likely need to be modified when primacy is achieved by DEQ.

Excluding surface water buffer distances (and two possible domestic water supplies), all other buffer restrictions in permit WRU M-0143-02 should be included in permit M-143-03.

5.7 Runoff

DEQ approved the facility's Plan of Operation (PO) on October 29, 2010. It is recommended that a compliance activity be included in permit M-143-03 that would require the permittee to submit an updated PO with an updated Runoff Management Plan.

5.8 Seepage Rate Testing

Table 6 contains Gozzer Ranch lagoon summary information and the most recent seepage test rate for the bypass storage lagoon. The most recent seepage test on the bypass storage lagoon showed seepage rates lower than the allowable limit.

Since treated municipal wastewater is discharged into the irrigation lagoon, it is also considered a municipal wastewater lagoon. However, the facility has not been required to seepage test the lagoon under permit WRU M-0143-02 but instead, was required to monitor total Kjeldahl nitrogen, nitrite+nitrate-N, and total phosphorus monthly from the lagoon (DEQ 2018). The facility only sampled irrigation water from the lagoon twice during the permit cycle and this sampling showed low concentrations of total Kjeldahl nitrogen (~0.81 mg/L), nitrite+nitrate-N (0.063 mg/L), and total phosphorus (0.15 mg/L).

In the facility's original technical report, it was estimated that the golf course would require a hydraulic loading rate of 500,000 gpd between mid-April and mid-September (Welch-Comer 2005). This equates to an approximately 76.5 MG needed for the irrigation season. During the WRU M-0143-02 permit cycle, the facility sent an average of 6.1 MG per year of Class A effluent to the irrigation pond. Therefore, it is estimated that ~8 percent of the water entering the irrigation pond is Class A effluent.

Considering the high quality of Class A effluent entering the irrigation pond and that it likely equates to ~8 percent of total water entering the golf irrigation pond, DEQ staff does not recommend seepage testing of this lagoon be required in permit M-143-03. However, it is recommended that the facility be required to monitor the irrigation pond for total Kjeldahl nitrogen, nitrite+nitrate-N, and total phosphorus during the first and second growing season of the permit cycle. The monitoring results will inform DEQ of the level of regulatory concern with respect to ground water impacts from this lagoon. The bypass storage lagoon should be seepage tested in June 2027 per IDAPA 58.01.16.493.02.c.

Table 6. Facility lagoon information and seepage rates.

Lagoon	Description	Seepage Test Dates	Seepage Rate (inches/day)	Allowable Limit (inches/day)
LG-143-01[a]	Bypass storage lagoon	June 1 to June 12, 2017	0.086	0.25
LG-143-02	Golf irrigation pond	Lagoon not seepage tested (not required).		

a. Welch-Comer 2017

5.9 Waste Biosolids, Sludge, and Solid Waste

The facility manages sludge in accordance with the Sludge Removal Operation and Maintenance (O&M) Manual, submitted October 25, 2011. Waste activated sludge generated at the facility is sent to the Hayden Area Regional Sewer Board solids handling facility for processing (NKWSD 2011). It is recommended that the facility be required to submit an updated Sludge Removal O&M with the PO compliance activity in the draft permit.

5.10 Nuisance Odors

Based on the contents of the 2013 and 2015 inspection reports, it does not appear that nuisance odors are a prevalent issue at the facility (DEQ 2013 section 7.1, p. 8; DEQ 2015 section 7.1, p. 10). In 2013, the facility installed an odor control system at the lift station near Eddie's

Restaurant at the Arrow Point community (Welch-Comer 2013). It is recommended that the facility be required to submit an odor management plan with the updated PO in permit M-143-03.

5.11 Nutrient Management Plan

The facility submitted a NMP on February 3, 2016. The plan outlined fertilizer management on the reuse site based on nutrient content in the irrigation water and addressed ground water contamination concerns (NKWSD 2016). DEQ staff recommends the facility be required to submit an updated NMP with the PO in permit M-143-03 if there are any substantial changes from the current NMP.

5.12 Salts

Based on the type of recycled water generated and the volume applied, excess salt-loading to soil or impacts to ground water are not anticipated to be a problem. DEQ staff does not recommend an NVDS loading plan for this reuse site.

6 Monitoring

The proposed monitoring requirements for the draft permit are described in the following subsections. All monitoring will be conducted according to a facility QAPP, as required in M-143-03 section 3, CA-143-02.

6.6 Recycled Water Monitoring

The Recycled Water Rules specify Class A monitoring requirements and DEQ staff recommends all of the requirements listed in Table 7 be included in permit M-143-03. During the permit renewal for WRU M-0143-02, the facility requested to reduce the sampling frequency for total coliform from daily to five days per week (DEQ 2012a section 4.4, p. 7). The change was requested due to difficulty associated with having the sample analyzed by a laboratory on the weekend. As part of the request, the permittee indicated that chlorination would be added to the regular disinfection method on any day that a total coliform sample was not collected. DEQ added the following condition to the permit as an additional protective measure in reducing the sampling frequency:

Chlorination is required after ultraviolet disinfection on any day when a total coliform sample is not collected for the treated effluent. (DEQ 2012b section 4.5, p. 10).

However, the facility was not required to monitor total chlorine residual and it is unknown how the system responded with the additional disinfection method. It is recommended that adding chlorine no longer be required by the permit but instead, the facility no longer be allowed to discharge to the golf irrigation pond when sampling for total coliform does not occur. Currently, the facility has been sending wastewater to the bypass storage lagoon on days when total coliform samples are not collected (NKWSD 2018b). This was also noted in the permit WRU M-

0143-02 staff analysis and DEQ added the following condition to address storage capacity concerns (DEQ 2012a section 4.3, p. 5):

The capacity of the bypass storage lagoon must be maintained in such a manner which allows for the diversion of wastewater effluent that does not meet the turbidity or total coliform limits to the lagoon until the system is able to meet the turbidity and total coliform limits. (DEQ 2012b section 4.5, p. 10).

Because the bypass storage lagoon was designed for emergency storage only (Welch-Comer 2005 section 8, p. 9), the draft permit will include a compliance activity that requires the permittee to submit to DEQ an update to the Welch-Comer June 2005 engineering report that re-assesses the capacity of the bypass storage pond for non-emergency storage. This evaluation should account for time needed to repair/replace essential treatment components, as well as determine a maximum volume of non-emergency capacity while still allowing for adequate emergency storage.

Total coliform monitoring for Class A effluent can be reduced in accordance with the following from the Recycled Water Rules (IDAPA 58.01.17.601.01.a.iii.(1)):

Class A recycled water shall be sampled and analyzed daily for total coliform when allowed uses specifically require Class A recycled water. The sampling frequency for Class A may be decreased and the alternate frequency will be determined based upon, but not limited to, the following: uses that are allowed with lower class recycled water, the volume of recycled water used, the disinfection method used, the demonstrated disinfection efficiency and reliability, the point of compliance, or other factors demonstrating that the alternative frequency is protective of public health.

However, the facility irrigates Class A effluent to both a golf course and residential lawns and, therefore, sampling cannot be decreased based on type of use. Considering Gozzer Ranch is a Class A facility and the public could come into direct contact with diluted effluent, it is recommended that the permit not allow discharge of effluent to the golf irrigation pond when total coliform sampling is not conducted. This will ensure that the public does not inadvertently come in contact with off specification wastewater.

DEQ staff recommends the following changes and conditions for permit M-143-03:

- The weekend chlorination requirement in permit WRU M-0143-02 be removed from permit M-143-03 (DEQ 2012b section 4.5, p. 10).
- The bypass storage lagoon condition in permit WRU M-0143-02 (DEQ 2012b section 4.5, p. 10), regarding available storage, be replaced with a statement that prohibits the facility from discharging recycled water to the emergency bypass lagoon for any purposes other than emergency storage of off specification water. If the permittee wishes to use the emergency bypass pond for normal operations, they must submit to DEQ an update to the Welch-Comer June 2005 Preliminary Technical Report for Land Application to re-assess the adequacy of the emergency bypass storage lagoon for use under normal operating conditions. The report must include a maximum volume that can be diverted to the lagoon for non-emergency use

that will allow for adequate emergency storage.

- A statement be included in permit M-143-03 that prohibits the discharge of recycled water to the golf irrigation pond when a total coliform sample is not collected.

Table 7. Class A constituent monitoring requirements to include in permit M-143-03.

Monitoring Point Serial Number and Location	Sample Description	Sample Type and Frequency	Constituents (mg/L unless otherwise specified)
WW-143-01 Discharge from membrane filtration prior to disinfection	Recycled water after filtration and prior to disinfection.	Continuous	- Turbidity (NTU)
WW-143-02 Discharge point after disinfection	Recycled water to LG-143-03	Composite/weekly	- Total N - BOD_5
		Grab/daily when producing recycled water	- Total coliform (CFU/100 mL) - pH

The facility has been monitoring influent and effluent flow through the WWTP. The effluent flow meter (FM-143-02) is located after the filtrate pump in the WWTP and monitors flow to the effluent pump station. From the effluent pump station, effluent can either be pumped to the golf irrigation pond or the bypass storage lagoon, in the event effluent does not meet Class A specifications. Therefore, the effluent flow meter does not exclusively monitor effluent flow to the irrigation pond, as specified in the permit (DEQ 2012b section 5.1.2, p. 11). There is another flow meter located in a vault adjacent to the effluent pump station and it exclusively monitors effluent flow to the golf irrigation pond. Facility personnel indicated that they have been monitoring flow at this flow meter during the WRU M-0143-02 permit cycle (NKWSD 2018a).

It is recommended that the facility be required to monitor the effluent pump station vault flow meter to monitor flow to the golf irrigation pond instead of FM-143-02. DEQ staff recommends that FM-143-02 continue to be monitored, as it will provide important information on how the facility is utilizing the bypass storage lagoon. Lastly, it is recommended that the flow monitoring listed in Table 8 be included in permit M-143-03.

Table 8. Proposed flow monitoring for permit M-143-03.

Flow Measurement Serial Number and Location	Sample Description	Sample Type and Frequency	Parameters, each MU or FM
FM-143-01 Flow meter at screen to anoxic tank in WWTP	Wastewater influent volume	Daily meter reading Monthly compilation of data	- Volume (MG/month)
FM-143-02 Flow meter after filtrate pump in WWTP	Effluent flow to effluent pump station	Daily meter reading Monthly compilation of data	- Volume (MG/month)
FM-143-03 Pump at the bypass storage lagoon	Wastewater flow from LG-143-01 to equalization basins	Daily pump run times Monthly compilation of data	- Volume (MG/month)
FM-143-04 Waste activated sludge (WAS) pump	Volume of diverted WAS	Daily pump run times Monthly compilation of data	- Volume of WAS (gallons)

FM-143-05 Flow meter at effluent pump station vault	Effluent flow to LG-143-03	Daily meter reading Monthly compilation of data	- Volume (MG/month)

6.7 Soil Monitoring

Soil monitoring was not required in permit WRU M-0143-02 and DEQ staff does not recommend it be included in permit M-143-03. The facility operates the golf course under a NMP, which is included in the facility's QAPP.

6.8 Ground Water Monitoring

Ground water monitoring was not required in permit WRU M-0143-02 but included a statement that activities authorized by this permit shall be conducted in accordance with IDAPA 58.01.11, "Ground Water Quality Rule". DEQ staff does not recommend a ground water monitoring requirement be added to this permit

6.9 Supplemental Irrigation Water Monitoring

Recycled water is mixed with SIW in LG-0143-03 (golf irrigation pond) prior to being discharged to the MUs. In permit WRU M-0143-02, the facility was required to collect a grab sample from this lagoon, monthly, during the growing season to analyze for total Kjeldahl nitrogen, nitrite+nitrate-N, and total phosphorus (DEQ 2012b section 5.1.1, p. 11). The facility missed a substantial amount of this monitoring during the WRU M-0143-02 permit cycle and, therefore, DEQ recommends this monitoring be required in permit M-143-03 but only monitor for total N and phosphorus.

6.10 Crop Yield and Tissue Monitoring

Crop yield and plant tissue monitoring is not typically required for turf grass and this has not been included in all previous Gozzer Ranch permits. Since this facility will be utilizing high quality Class A recycled water for irrigation, a need for this monitoring is even less justified and not recommended.

6.11 Meteorological Monitoring

Meteorological monitoring will not be required in permit M-143-03 because there are a sufficient number of meteorological monitoring stations located within the region.

6.12 Calculation Methodologies

It is recommended that the calculation methodologies listed in Table 9 be included in permit M-143-03.

Table 9. Recommended calculation methodologies for permit M-143-03

Monitoring Point Serial Number	Parameter	Units
WW-143-01	Daily arithmetic mean of turbidity and maximum recorded turbidity value in treated effluent prior to disinfection.	- NTU
WW-143-02	Monthly arithmetic mean of weekly total N samples.	- mg/L
	Monthly arithmetic mean of weekly BOD_5 samples	- mg/L

7 Quality Assurance Project Plan

The QAPP outlines the procedures used by the permittee to ensure the data collected and analyzed meet the requirements of the permit.

To support the agency's mission, DEQ is dedicated to using and providing objective, correct, reliable, and understandable information. Decisions made by DEQ are subject to public review and may at times, be subject to rigorous scrutiny. Therefore, DEQ's goal is to ensure that all decisions are based on data of known and acceptable quality.

The QAPP is a permit requirement and must be submitted to DEQ as a stand-alone document for review and acceptance. The QAPP is used to assist the permittee in planning for the collection, analysis, and reporting of all monitoring data in support of the reuse permit and explaining data anomalies when they occur.

DEQ does not approve QAPPs but reviews them to determine if the minimum United States Environmental Protection Agency (EPA) guideline requirements are met and the reuse permit requirements are satisfied. DEQ does not approve QAPPs because the responsibility for validating the facility's sampling data lies with the permittee's quality assurance officer and not with DEQ.

The QAPP's format should adhere to the recommendations and references in (1) the Assurance and Data Processing sections of the DEQ Guidance and (2) EPA's QAPP guidance documents. EPA's QAPP guidance documents are available at *https://www.epa.gov/quality/epa-quality-management-tools-projects#qa-plans.*

The draft permit will include a compliance activity requiring a QAPP be created and submitted to DEQ.

8 Site Operation and Maintenance

The facility's PO was approved October 29, 2010. Considering a number of changes have been proposed for permit M-143-03, DEQ staff recommends that the facility be required to submit an updated PO as a compliance activity.

A license is not required to operate a Class A effluent distribution system per section 203.05.a of the Wastewater Rules, therefore Wastewater Treatment Operator – Land Application licenses are

not required. The individual users of the recycled water system are not required to be licensed operators. However, Section 607.02.e of the Recycled Water Rules, requires users to sign a utility user agreement with the utility providing the Class A recycled water, stating that the users understand the origin of the effluent and the concept of an agronomic rate for applying the Class A recycled water. A utility agreement was required in permit WRU M-0143-02 but DEQ staff recommends the requirement be included in permit M-143-03 to ensure the agreement is upheld.

9 Compliance Activities

9.6 Status of Compliance Activities in Current Permit

The compliance activities required by permit M-143-02 (DEQ 2012b section 3, pp. 5–6) and their current statuses are presented in Table 10.

Table 10. Permit M-143-02 compliance activities and statuses for Gozzer Ranch.

Compliance Activity	Description	Due Date	Status
CA-143-01	Plan of Operation	December 28, 2012	Submitted: 10/7/2010 Approved: 10/29/2010
CA-143-02	Initiate Public Education Program	September 28, 2012	Submitted: 9/27/2012
	Document that public education program has been initiated	December 28, 2012	Completed
CA-143-03	Nutrient Management Plan	June 28, 2013	Submitted: 2/3/2016 Approved: Pending
CA-143-04	Seepage Testing of the Bypass Storage Lagoon	Plan: April 30, 2016 Test: April 30, 2017	**Plan** Submitted: 4/25/2017 Approved: 5/4/2017 **Test** Submitted: 12/1/2017 Approved: 12/14/2017
CA-143-05	Permit Renewal Pre-Application Meeting and Application Submittal	Meeting: June 28, 2016 Application: January 28, 2017	**Meeting** Completed **Application** Submitted: 1/25/2017 Incomplete: 4/21/2017 Complete: 5/5/2017

9.7 Compliance Activities Required in New Permit

Table 11. Recommended compliance activities for permit M-143-03

Compliance Activity (CA) Number and Completion Due Date	Compliance Activity Description
CA-143-01 12 months after permit issuance	**Updated Plan of Operation (PO)**: The permittee shall submit for review and approval a PO that reflects current operations and incorporates the requirements of this permit. The PO shall comply with the applicable requirements stated in IDAPA 58.01.17.300.05 and shall address applicable items in the most current DEQ Plan of Operation Checklist. The PO shall be updated as needed to reflect current operations. The permittee shall notify DEQ of material changes to the PO and copies shall be kept on site and made available to DEQ upon request. The completed manual shall be incorporated by reference into this permit and shall be enforceable as part of this permit.
CA-143-02 12 months after permit issuance	**Quality Assurance Project Plan (QAPP)**: The permittee shall prepare and implement a QAPP that incorporates all monitoring and reporting required by this permit. A copy of the QAPP along with written notice that the permittee has implemented the QAPP shall be provided to DEQ. The QAPP shall be designed to assist in planning for collecting, analyzing, and reporting all monitoring in support of this permit and in explaining data anomalies when they occur. At a minimum, the QAPP must include the following: 1. Details on the number of measurements, number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements 2. Maps indicating the location of each monitoring and sampling point 3. Qualification and training of personnel 4. Names, addresses, and telephone numbers of the laboratories used by or proposed to be used by the permittee 5. Example formats and tables that will be used by the permittee to summarize and present all data in the annual report The format and content of the QAPP should adhere to the recommendations and references in the Quality Assurance and Data Processing sections of the reuse guidance. The permittee shall amend the QAPP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAPP. The permittee shall notify DEQ of material changes to the QAPP and copies shall be kept on site and made available to DEQ upon request.
CA-143-03 As specified	**Seepage Testing**: The following table shows the date by which the permittee shall complete seepage testing on the specified lagoons: **Lagoon:** — **Seepage Test Due Date:** Bypass storage lagoon — June 30, 2027

	Submit to DEQ for review and approval a proposed schedule and procedure for performing the required seepage tests at least 45 days before to the planned seepage test. The seepage test procedures shall be sealed by the Idaho licensed professional engineer or professional geologist in responsible charge for the test. Seepage tests shall be completed according to the procedures approved by DEQ. The seepage test report shall be sealed by the person in responsible charge and submitted within 90 days after completion of the seepage test. Allowable seepage rates can be found in IDAPA 58.01.16.493.03. Requirements for lagoons leaking above the allowable amount are outlined in IDAPA 58.01.16.493.04.
CA-143-04 6 months after permit issuance	**Updated Preliminary Technical Report (PTR):** The permittee shall submit to DEQ for review and approval an update to the Welch-Comer June, 2005 PTR for Land Application to re-assess the adequacy of the emergency bypass storage lagoon for use under normal operating conditions. The report must include a maximum volume that can be diverted to the lagoon for non-emergency use that will allow for adequate emergency storage. Upon DEQ approval of the updated PTR, all updated information regarding the bypass storage lagoon shall be included in the PO.
CA-143-05 6 months after permit issuance	**Public and Private Well Status Report:** The permittee shall submit to DEQ for review and approval a report documenting the use status of all wells located within fifty (50) feet of the reuse site. For wells located within 50 feet of the reuse site, the permittee shall document in the report that wellheads are adequately protected.
CA-143-06 At least 1 year prior to expiration date of this permit	**Pre-application Workshop:** If the permittee intends to continue operating the reuse facility beyond the expiration date of this permit, the permittee shall contact DEQ and schedule a pre-application workshop to discuss the compliance status of the facility and the content required for the reuse permit application package.
CA-143-07 At least 6 months prior to expiration date of this permit	**Renewal Permit Application:** The permittee shall submit to DEQ a complete permit renewal application package that fulfills the requirements specified in CA-143-06 and identified at the pre-application workshop.

10 Recommendations

Staff recommends issuing the draft reuse permit for 10-years. The draft permit specifies the following: hydraulic and constituent loading limits; compliance conditions to be performed; and monitoring and reporting requirements to evaluate system performance, environmental impacts, and permit compliance.

11 References

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Appendix A. Site Maps

Figure 10. Wetlands around the Gozzer Ranch Reuse Site (USFWS 2018).