

# ANTIDegradation REVIEW FORM

## UTAH DIVISION OF WATER QUALITY

### Instructions

The objective of antidegradation rules and policies is to protect existing high quality waters and set forth a process for determining where and how much degradation is allowable for socially and/or economically important reasons. In accordance with Utah Administrative Code (UAC R317-2-3), an antidegradation review (ADR) is a permit requirement for any project that will increase the level of pollutants in waters of the state. The rule outlines requirements for both Level I and Level II ADRs, as well as public comment procedures. This review form is intended to assist the applicant and Division of Water Quality (DWQ) staff in complying with the rule but is not a substitute for the complete rule in R317-2-3.5. Additional details can be found in the *Utah Antidegradation Implementation Guidance* and relevant sections of the guidance are cited in this review form.

ADRs should be among the first steps of an application for a UPDES permit because the review helps establish treatment expectations. The level of effort and amount of information required for the ADR depends on the nature of the project and the characteristics of the receiving water. To avoid unnecessary delays in permit issuance, the Division of Water Quality (DWQ) recommends that the process be initiated at least one year prior to the date a final approved permit is required.

DWQ will determine if the project will impair beneficial uses (Level I ADR) using information provided by the applicant and whether a Level II ADR is required. The applicant is responsible for conducting the Level II ADR. For the permit to be approved, the Level II ADR must document that all feasible measures have been undertaken to minimize pollution for socially, environmentally or economically beneficial projects resulting in an increase in pollution to waters of the state.

For permits requiring a Level II ADR, this antidegradation form must be completed and approved by DWQ before any UPDES permit can be issued. Typically, the ADR form is completed in an iterative manner in consultation with DWQ. The applicant should first complete the statement of social, environmental and economic importance (SEEI) in Part C and determine the parameters of concern (POC) in Part D. Once the POCs are agreed upon by DWQ, the alternatives analysis and selection of preferred alternative in Part E can be conducted based on minimizing degradation resulting from discharge of the POCs. Once the applicant and DWQ agree upon the preferred alternative, the review is considered complete, and the form must be signed, dated, and submitted to DWQ.

For additional clarification on the antidegradation review process and procedures, please contact Nicholas von Stackelberg (801-536-4374) or Jeff Ostermiller (801-536-4370).

## Antidegradation Review Form

### Part A: Applicant Information

**Facility Name:** Canyonlands by Night

**Facility Owner:** Preston Paxman, Chief Executive Officer

**Facility Location:** 1861 North Highway 191, Moab, UT 84532

**Form Prepared By:** AQUA Engineering

**Outfall Number:** 001

**Receiving Water:** Colorado River

**What Are the Designated Uses of the Receiving Water (R317-2-6)?**

Domestic Water Supply: 1C  
Recreation: 2A - Primary Contact  
Aquatic Life: 3B - Warm Water Aquatic Life  
Agricultural Water Supply: 4  
Great Salt Lake: None

**Category of Receiving Water (R317-2-3.2, -3.3, and -3.4):** Category 3

**UPDES Permit Number (if applicable):** UT 0025828

**Effluent Flow Reviewed:** Design flow: 80,000gpd, Peak flow 160,000 gpd  
Typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.

**What is the application for? (check all that apply)**

- A UPDES permit for a new facility, project, or outfall.
- A UPDES permit renewal with an expansion or modification of an existing wastewater treatment works.
- A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.
- A UPDES permit renewal with no changes in facility operations.

**Part B. Is a Level II ADR required?**

*This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).*

**B1. The receiving water or downstream water is a Class 1C drinking water source.**

**Yes** A Level II ADR is required (Proceed to Part C of the Form)

**No** (Proceed to Part B2 of the Form)

**B2. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).**

**Yes** (Proceed to Part B3 of the Form)

**No** No Level II ADR is required and there is no need to proceed further with review questions.

**B3. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review? For a few pollutants such as dissolved oxygen, an antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Section 3.3.3 of Implementation Guidance)**

**Yes** (Proceed to Part B4 of the Form)

**No** No Level II ADR is required and there is no need to proceed further with review questions.

**B4. Are water quality impacts of the proposed project temporary and limited (Section 3.3.4 of Implementation Guidance)?** Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

- Yes** Identify the reasons used to justify this determination in Part B4.1 and proceed to Part G. No Level II ADR is required.
- No** A Level II ADR is required (Proceed to Part C)

**B4.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (see R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.4 of Implementation Guidance):**

- Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

**Factors to be considered in determining whether water quality impacts will be temporary and limited:**

- a) The length of time during which water quality will be lowered:
- b) The percent change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:

## Level II ADR

Part C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Part G of the form.

### Optional Report Name:

Colorado River Resort - concept approval application - sewer disposal

**Part C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located?** *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in this section. More information is available in Section 6.2 of the Implementation Guidance.*

**C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.**

The Canyonlands by Night is in a process of construction of water treatment facility and wastewater treatment for a new motel. It is anticipated about 20 people will be employed and 90 rooms will be installed with the new motel. The facility will allow people to stay near Moab throughout a year. In the future the wastewater treatment may become part of a district which can service an additional motel along with Arches National Park and the UMTRA site.

**C2. Describe any environmental benefits to be realized through implementation of the proposed project.**

The primary environmental benefit will allow multiple areas to be combined into a single sewer system in the area. However, it is not anticipated that the additional connections will happen for a while into the future.

**C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.**

No projected social or economical losses are expected from this project.

**C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.**

The wastewater treatment system is designed to treat flow for the motel that is currently under construction. In addition the treatment is sized for an additional hotel that will be constructed in the future.

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

There will be an intake structure that will have a feed pump that pumps river water to the water treatment plant within the receiving water. Also, the receiving water will have discharge piping from effluent storage tank.

**Part D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern.** *Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.*

**Parameters of Concern:**

Rank	Pollutant	Ambient Concentration	Effluent Concentration
1	BOD	1 mg/L (WLA)	5 mg/L
2	TSS	81.8 mg/L (STORET)	5 mg/L
3	*E.Coli:	-	10 cfu
4	Ammonia	0.06 mg/L (STORET)	0.9 mg/L
5	Phosphorus	111 ug/L (STORET)	8 mg/L

**Pollutants Evaluated that are not Considered Parameters of Concern:**

Pollutant	Ambient Concentration	Effluent Concentration	Justification

**\* The E.Coli level is based on a UV treatment system being installed. The UV system that is currently being evaluated is the Hallett 30. It treats using a 80 mJ/cm<sup>2</sup> dose @ 65% UVT**

## Part E. Alternative Analysis Requirements of a Level II

**Antidegradation Review.** *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. More information is available in Section 5.5 and 5.6 of the Implementation Guidance.*

**E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. No economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).**

Yes (Proceed to Part F)

No or Does Not Apply (Proceed to E2)

**E2. Attach as an appendix to this form a report that describes the following factors for all alternative treatment options (see 1) a technical description of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.**

**Report Name:** *The primary treatment alternative for this project was going to be drain fields. However, Dave Snyder who is over the on-site systems requested that we look at a discharge permit. The system is quite large for an on-site system and from a reliability standpoint he felt a discharge permit was a better alternative than a drain field. In addition the drain fields take up more area than is available. UDOT allowed some of their right of way to be used but they could not give a permanent easement for the drip system.*

**E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLA) and any secondary or categorical effluent limits.**



**E4. Were any of the following alternatives feasible and affordable?**

<b>Alternative</b>	<b>Feasible</b>	<b>Reason Not Feasible/Affordable</b>
Pollutant Trading	Not Applicable	
Water Recycling/Reuse	Yes	
Land Application	No	There is no land application site available
Connection to Other Facilities	No	City of Moab rejected request from Canyonlands by night for connection
Upgrade to Existing Facility	Not Applicable	
Total Containment	No	Total containment will require a large tract of land that is unavailable.
Improved O&M of Existing Systems	No	Capacity of existing facility is not equivalent with the proposed discharge
Seasonal or Controlled Discharge	No	It can be only be done during summer
New Construction	Yes	
No Discharge	No	There are several onsite disposal systems being installed as part of this project. However, the full build out of the project will not allow enough space for total onsite disposal.

**E5. From the applicant's perspective, what is the preferred treatment option?**

**The wastewater treatment is using an Advantex sewer treatment system.**

**E6. Is the preferred option also the least polluting feasible alternative?**

Yes

No

If no, what were less degrading feasible alternative(s)?

If no, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.

**Part F. Optional Information**

**F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.**

No

Yes

**F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?**

No

Yes

**Report Name:**

**Part G. Certification of Antidegradation Review**

**G1. Applicant Certification**

*The form should be signed by the same responsible person who signed the accompanying permit application or certification.*

Based on my inquiry of the person(s) who manage the system or those persons directly responsible for gathering the information, the information in this form and associated documents is, to the best of my knowledge and belief, true, accurate, and complete.

Print Name: Preston Paxman, CEO

Signature: \_\_\_\_\_

Date: 6-3-14

**G2. DWQ Approval**

To the best of my knowledge, the ADR was conducted in accordance with the rules and regulations outlined in UAC R-317-2-3.

Water Quality Management Section

Print Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

