

## Infinity Water Solutions

June 5, 2023

**RE: Request for Additional Information, Infinity Water Solutions, Battle Axe Ranch Hemp Project 2023-05-05 - WPD GWQB - RAI**

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1. Provide a comprehensive disposal and closure plan for all materials, equipment and plant material. Note that any hemp that comes into contact with produced water or treated produced water must be disposed of at an approved OCD facility or landfill, not necessarily in accordance with NMDA requirements.

Our current disposal and closure plans are below. However, we are open to suggestions from the NMED should you have a preferred methodology, as we wish to execute this study with the utmost environmental stewardship.

- **Equipment:** We do not plan to dispose of our equipment. We plan to reuse it again at future testing sites. Any equipment used during the study will be thoroughly cleaned of any contaminants.
- **Material:** Immediately following the harvest, all excess hemp material will be destroyed in compliance with the USDA guidelines for hemp destruction. The Standard Remediation and Disposal guidelines can be found here: <https://www.ams.usda.gov/sites/default/files/media/HempRemediationandDisposalGuidelines.pdf>
- **Water:** Any unused water from the study will be returned to Infinity Water Solutions' Mills Ranch 1 facility where it can be recycled for direct reuse inside the oil and gas industry.
- **Soil:** Any contaminated soil will be disposed of at approved soil restoration sites or approved landfills.

2. Provide plans and specifications for the design of on the proposed holding unit (for the 1,000 bbls of treated water prior to distribution on the hemp crop), the impoundment construction and liner (including the material and manufacturer), and any leak detection systems used to ensure containment of the discharges.

As of right now, our plan is to receive and treat raw produced water at our Mills Ranch 1 recycling facility, then store and transport the final desalinated effluent into clean 300+ gallon totes to be transported to the cultivation facility on a weekly basis (<10 bbl of

treated desalinated produced water will be used to water our experiment hemp plot each day, <2 totes/day).

Akin to how we build and manage our produced water pits, our plans for the pilot beds will be constructed with the same degree of environmental integrity and compliance. As such our liners will contain four layers:

1. Felt - first layer for padding
2. 40 mil - first layer of protection
3. 8 oz Geotextile - second layer of padding
4. 60 mil - final layer of padding

3. Provide transportation plan details for how you will transport the produced water and treated produced water on and off site for both locations.

Infinity's Mills Ranch 1 is an active water recycling facility. We currently have several operators that are delivering raw Permian produced water direct to our treatment facilities via hard pipe. The raw produced water will then be treated by our pretreatment process and then passed through our partner desalination system, with the final effluent being collected into clean 300+ gallon totes. The totes will then be transported on a weekly basis (<10 bbl of treated desalinated produced water will be used to water our experiment hemp plot each day, <2 totes/day) via truck from our treatment location (Mills Ranch 1) to the sub-section of the Battle Axe Ranch where we plan to conduct the hemp pilot trials.

4. Provide a description of how you intend to protect the impoundment liner integrity during the emplacement of soil and how you will protect the liner from the hemp plant's root structure.

The protective liner will be covered with approximately 3-4 ft of native soil, which will be sufficient to contain the extent of the roots of the hemp crop in question. For this particular field study we will be using the Cattail Grape varietal by AgSense. This particular hemp genetic has an extremely rapid cultivation cycle (8-10 weeks from seed to harvest) and a majority of the root structure is focused in a centralized tap root that is less than 2 ft long. As such, we do not anticipate there being any penetration of the protective liner.

5. Provide additional information demonstrating means of restricted access including fencing at Battle Axe Ranch for all areas where you intend to store or apply raw or treated produced water.

The main entrance to the Battle Axe Ranch passes right past headquarters and is heavily monitored by ranch staff. With that being said, the traffic that does enter the

ranch is associated with oilfield activities (primarily EOG), which are guided to select portions of the property. The sub-section where we intend to house the hemp crops and water storage will have heavy signage to convey the sensitivity of the study area. The hemp crop beds will be contained with an additional perimeter fence, as per NMDA licensing requirements. Additionally, the hemp crops and water storage units will also be monitored by live video camera and security staff.

6. Provide maps showing the following:
  - a. Adjacent landowners to the Battle Axe Ranch,
  - b. Land status,
  - c. The US Federal Emergency Management Agency's (FEMA's) 100-year floodplain,
  - d. Locations of any dwellings or occupied establishments,
  - e. Nearby water courses, and water wells or springs within or adjacent to the Battle Axe Ranch.

Please see the following two maps.



