



State of Utah

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PUBLIC LANDS POLICY COORDINATING

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August 22, 2017

*Sent via electronic mail: [allanmoore@utah.gov](mailto:allanmoore@utah.gov)*

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Solid Waste Program Manager  
Utah Division of Solid & Hazardous Waste  
Department of Environmental Quality  
195 North 1950 West  
Salt Lake City, UT 84116

Subject: **Promontory Landfill Class V**  
RDCC Project No. 59842

Dear Mr. Moore:

The Public Lands Policy Coordination Office received the following comments from the Division of Forestry, Fire & State Lands (FFSL) and the Division of Wildlife Resources (UDWR). FFSL and UDWR jointly express concern in regard to the proposed status change of a Promontory Landfill Solid Waste Permit Application from the current Class I solid waste landfill to a commercial Class V and to the potential impact this modification could have on wildlife and the Great Salt Lake (GSL).

The GSL is the largest saline lake in the Western Hemisphere. The lake and its surrounding wetlands comprise 75 percent of all wetlands in the State of Utah. The GSL ecosystem sustains millions of birds and associated wetlands. Several hundred thousand shorebirds of different species inhabit the lake seasonally, and for some species, at certain times of the year, over half of their North American population can be found on the GSL. The GSL provides important habitat for waterfowl during spring/fall migrations and nesting seasons, as well as supports brine shrimp populations, a critical food source for migratory birds. A multi-million dollar brine shrimp harvesting industry exists on the GSL, making water quality an important consideration from a commercial standpoint. A number of mineral extraction companies, who utilize solar evaporation to produce salt, sulfate of

potash, and magnesium chloride, also occupy the GSL. Mineral-rich brine from the GSL is pumped into a series of shallow ponds where solar radiation evaporates the water, leaving beds of valuable crystallized minerals.

Birds forage on the abundant food resources of the lake. Brine shrimp, brine flies, midges, and corixids are just some of the invertebrate prey that these birds feast on to fatten up for migration. Wilson's phalaropes, in particular, eat so much that they double their weight, and the fat reserves power a non-stop flight from the GSL to South America. Another species, the eared grebe, also relies heavily on food available at the GSL. During the fall, up to five million eared grebes visit the lake and eat 20,000 to 30,000 brine shrimp per bird per day. Eared grebes also double their weight while at the lake. They fly non-stop to the Salton Sea or the Gulf of California departing the GSL often at night, visible on Doppler radar, in huge flocks 60 miles long by 10 miles wide.

The GSL supports the largest breeding colony of American white pelicans west of the continental divide. Twenty-one percent of the North American breeding population of snowy plovers exist around the lake. The GSL has the largest inland wintering population of common goldeneyes and as much as 60 percent of the North American breeding population of cinnamon teal. One-quarter of all marbled godwits, 15 percent of the long-billed dowitchers, and 10 percent of the red-necked phalaropes in North America migrate and stopover at GSL. All these birds and many more rely on the GSL for breeding, migration, wintering, and molting.

Disruption of habitat, water quality, bioherms/stromatolytes<sup>1</sup>, phytoplankton, or zooplankton that impacts the forage base for migratory birds would be detrimental to the avian communities reliant on this resource. Fugitive toxic dust that settles in the GSL could affect water quality, as well as pollution from materials that reach the lake. Brine shrimp and brine flies remain the two major zooplankton that almost all the birds at GSL feed on from the goldeneye eating brine fly larvae off the bottom of the lake where they are attached to bioherms, to the phalaropes that pick the adults off the water surface, to gulls that snap them out of the air.

Freshwater springs surround the GSL. These springs are visible on the mudflats during low lake levels because *Phragmites* vegetation grows all around these freshwater seeps. A few springs exist within the bed of the GSL off the tip of Promontory Point. The Applicant has several groundwater monitoring wells in the upland areas and have identified testing and cleanup protocols should these wells show the presence of contaminants. However, to protect the GSL ecosystem (birds, brine shrimp, brine flies, algae, bacteria,

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<sup>1</sup> Bioherms / stromatolytes are complex biophysical structures resembling in function an inland reef, and they cover about 10 percent of Great Salt Lake's bottom. Brine fly larvae and other forage materials occur in a concentrated way on and near these structures. They are formed of mineral precipitates of calcium carbonate and magnesium carbonate produced by the blue-green alga *Aphanothece packardii*. They can be thought of as a substrate and an ecological engine providing food resources for hundreds of thousands of birds which orient to them during migration.

etc....), FFSL and UDWR recommend additional studies, which could identify linkages between groundwater flows on Promontory Point and the GSL springs near Promontory Point. If any well reveals the presence of contaminants, the Applicant should monitor these springs to make sure no contaminants reach the GSL waters. FFSL and UDWR recommend a cleanup protocol plan in the event of contamination of the springs,

Section II.c.8 of the application, “Run-on and run-off diversion designs (R315-303-3(1)(c), (d) and (e)),” provides for a 25-year storm event site infrastructure design for detention ponds and the leachate facility. Still, large precipitation events have occurred in recent history. It is important to ensure that the ponds can withstand major 50-100-year storms and weather events. These events are foreseeable, and under shifting climate patterns, higher rainfall amounts are predicted instead of historic snowfall levels.

Section II.b.11, “Calculation of site water balance (R315-310-4(2)(b)(ix)),” points out that while no proposed leachate treatment system exists, four options remain available for leachate treatment, including:

- Controlled dust within lined cells;
- Recirculated into the landfill via injection wells;
- Destroyed leachate materials in the LFG flare; or
- Evaporated leachate materials in lined basins.

The facility site plans in Appendix Y include a “Leachate Outfall System,” but does not describe whether the system is an open lined basin, a basin within a building or other covered facility, or the size. Any open basin could attract waterfowl and water birds, which the birds could potentially consume toxic leachate materials. The Leachate Outfall System needs further explanation in order to better understand the potential of impact on wildlife.

Section II.c.2, “Engineering reports required to meet the location standards of R315-302-1 including documentation of any demonstration or exemption made for any location standard (R315-310-4(2)(c)(i)),” addresses the landfill’s Land Use Compatibility to minimize impacts to surrounding lands. Two points of concern include:

- First, the Application states that “The Site is not located in an ecologically and scientifically significant natural area, including public wildlife management areas and habitat for threatened or endangered species as designated pursuant to the Endangered Species Act ...” This site is surrounded on three sides by the GSL. A wetland and waterbody, critical shelter for waterbirds, and hosts more than half of the world’s population of some shorebird species. The site remains one of the important natural areas on the North American continent.
- Second, the Application states that “The Site is not located in any wetlands and thus will not contribute to significant degradation of wetlands.” The site, in

fact, does not contain wetlands. Nonetheless, as explained above, the site is surrounded on three sides by the GSL, which again is an extensive wetland ecosystem of critical importance to waterbirds. The landfill site has the potential to significantly degrade the GSL through groundwater contamination, spring contamination, stormwater discharge into the GSL with the potential to cover bioherms within the GSL lakebed, and introduce sediments or chemical constituents, which could impair phytoplankton growth, and ultimately impact brine shrimp, brine flies, and birds. Moreover, the site may attract wildlife to evaporation ponds, which may contain toxic materials increasing the presence of nuisance wildlife species, which could feed upon waterbird nests. Fugitive dust and waste may also leave the site, further degrading the GSL ecosystem. The potential to degrade wetlands and affect wildlife populations of the GSL should be considered in this application. The Applicant must assure protection of the GSL environments.

Of major magnitude relates to the advent of railcar-delivered industrial waste, such as fly ash from coal-fired electric power generation, from areas extending broadly over regions "larger than the state but smaller than the nation." Railcar deliveries could produce up to 750 tons or more per day. The toxic heavy metal content of typical fly ash in such large quantities could be extremely destructive; potentially laying down heavy metals on wetlands, critical to migratory birds and other wildlife. Fugitive dust could also impact the commercial solar evaporation ponds located near the landfill. The Applicant should identify and evaluate mitigation measures in order to avoid, reduce, or remedy potential detrimental impacts. Heavy metal contamination is the single greatest risk to the GSL ecosystems and the industry.

Another important issue includes fugitive garbage that makes its way into the GSL. Fugitive garbage would impact birds and solar evaporation ponds. Plastic materials impact birds and other wildlife in the oceans. This could be a major concern on GSL as well. The location is proximal to where most of the eared grebes stage (near Fremont Island) and it is also where many waterfowl congregate in the winter because of fresh water inflows from the Bear River railroad causeway breach. The largest inland wintering populations of common goldeneye and eared grebes occur at the GSL. Both of these birds dive for their food, and if they become entangled in debris, it imperils their ability to survive. Fugitive garbage landing in the adjacent solar evaporation ponds could damage mineral operations occurring on the GSL.

UDWR and FFSL appreciate the additional management practices that the Applicant would undertake to reduce fugitive waste, including covered vehicles, trucks, and railroad cars. This portion of the GSL where the site is located is fairly far from common, intensive human uses and, as such, currently minimal litter or fugitive waste exist within either the upland habitats or in the GSL downwind of the proposed location.

The Plan of Operation, Attachment three, is missing the first two pages. It is

unknown what might be stated here. The first few paragraphs of page 5-3, describe a 12' tall, movable fence that would be used within 200' of the tipping face to control fugitive waste and prevent waste from leaving the area. Gusty winds and frequent high wind events normally occur in this area; 70 mph winds are common. The fence may not contain all waste materials, such as plastics. The Applicant should provide a specific description of the movable fence, such as the length of the fence, would the fence surround the tipping face or be on one side, the cleaning schedule for the fence, and the anchoring of the fence. UDWR and FFSL recommend a monitoring program to assess the amounts and types of waste escaping the facility. The Applicant should remove this waste on a regular basis from the surrounding lands, the GSL, and the East Promontory Road transportation route.

Appendix L, the Fugitive Waste Plan, identifies the closest weather station to the Promontory Point Landfill facility, north of the landfill, might not be representative of the weather at the site. During the first year while the Applicant develops a database and protocol for addressing wind events, the landfill would voluntarily cease placing waste at the tipping face during any wind event in which the following occur: the wind direction is from due north to due east, or wind velocity exceeds 35 mph for 30 minutes or longer. A closer weather station exists at the Compass Minerals evaporation ponds to the east of the landfill site. This weather station at the edge of the GSL should provide local weather data that could be helpful in evaluating weather events. Strong winds could come from any direction, not just from due north.

To protect the GSL, UDWR recommends the Applicant hire a certified consulting meteorologist firm to develop a weather plan before final permitting. The plan should include weather forecasts in the morning for the day's operations. Waiting until the winds remain strong enough to cease operations, could lead to fugitive waste escaping the site. Learning about unfavorable weather before it arises would help facility managers take timely action to cease dumping, cover the tipping face, and pick-up fugitive waste already on site. The weather plan should be used the first year of operation, as well as into the future.

Appendix L also includes a description of the proposed boundary fences with a 15' tall fence placed on top of a 5' berm located along the eastern, the southern, and a portion of the western property boundaries. The northern fence is proposed to be 6' high. A concern with this scenario is the possibility that mule deer would access the site from the north seeking forage or water sources, and have a difficult time finding their way back out of the site. UDWR recommends that the proposed 6' fences be raised to 8' fences. With appropriate fence maintenance, this should prevent mule deer from gaining access to the site.

According to Appendix K, a site-specific fugitive Dust Control Plan would not be necessary to operate the facility. When gusty winds or storm events exist, fly ash should not be disposed of on the tipping face of the landfill because of the higher potential for this dust material to leave the site. UDWR and FFSL recommend the Applicant reassess the

potential benefits associated with having a well-considered dust control plan. Similar to the Fugitive Waste Plan, UDWR and FFSL recommend the Applicant produce a weather plan in which dumping activities at the facility would cease during severe, windy, or otherwise inappropriate weather conditions.

Promontory Point is an extremely dry environment. The presence of any water attracts wildlife. Detention ponds or evaporation ponds may contain contaminants hazardous to wildlife. The Applicant should fence and cover the ponds in order to prevent wildlife from accessing the water. The mesh size of any coverings and fencing be designed to avoid injury or death to wildlife attempting to access the ponds.

UDWR owns the West Bear River Bay Access Area along both sides and perpendicular to the paved portions of the East Promontory Road. This area is primarily used during the annual waterfowl season from early October – February. Hunters may park on the side of the road, adding to congestion in the area when the haul trucks are moving through the area. The Applicant should construct a parking area to reduce congestion. The traffic study acknowledges that this road may be widened and improved over time to accommodate additional semi-truck traffic. Any impacts to UDWR property, including removing land for the roadway, will need to be specifically addressed.

Thank you for the opportunity to review the Class V Solid Waste Permit Application and your consideration of these comments on the proposed action. Please direct any other written questions regarding this correspondence to the Public Lands Policy Coordination Office at the address below, or call to discuss any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Clarke', with a long horizontal flourish extending to the right.

Kathleen Clarke  
Director