

## Attachment 2 - Plan of Operations

The District owns additional property less than one-half mile to the West of the proposed property, where they have drilled two groundwater monitoring wells. The first was drilled in 2004 and the second was drilled in 2010 and the District has been monitoring the groundwater levels ever since. The groundwater is located approximately 230 feet below the normal ground elevation and approximately 150 feet below the bottom elevation of the lowest portion of the gravel pit.

The groundwater is classified as Class 1B, used as a source for drinking water for several communities down stream of this location. The aquifer is a pristine water supply, with TDS levels of about 300 mg/l. The proposed mono-landfill is not located within a designated ground water drinking water source protection area, but in the future will be within the designated surface water drinking water source protection area with its proximity with the Weber river.

### **Historical preservation survey (R315-304-4(2)(a)(iv))**

Since it is clearly evident by the on-site inspection and the aerial photographs of the site, which are included in Appendix D, that the landfill site has been thoroughly disturbed by the previous gravel mining operation, as well as the landfill activities, the applicant is hereby requesting an Exemption for the Historical Survey Requirement.

### **If. Plan of Operations – All Class III Landfills (R315-310-3(1)(e) and R315-302-2(2))**

#### **Description of onsite waste handling procedures (R315-302-2(2)(b), R315-310-3(1)(f))**

Onsite waste handling will consist of dried drinking water treatment residual solids and clean earthen materials being hauled to the site in ten-wheeled dump trucks. On average there will be approximately one ten-wheeler truck load per day deposited in the landfill. The site has been secured by a fence and locked gate and no other types of waste will be allowed to be dumped or stored at the location.

#### **Schedule for conducting inspections and monitoring, and examples of the forms that will be used to record the results of the inspections and monitoring (R315-302-2(2)(c), R315-302-2(5)(a), and R315-310-3(1)(g))**

Monitoring of security issues will occur daily as District employees deliver waste to the site. Official monitoring and inspection of the landfill will occur biannually and after major storm events. The monitoring will identify any problems or potential problems to human health or the environment. Inspections are designed to prevent malfunctions or deteriorations of the site, operator errors, and discharge monitoring. A copy of the inspection log sheet is located in Appendix E.

#### **Contingency plans in the event of a fire or explosion (R315-302-2(2)(d))**

The waste at this site is neither flammable nor explosive. It is primarily inert earthen materials removed from the source water during the treatment to drinking water. The area is served by the County of Weber Fire Department if necessary.

**Plan to control fugitive dust generated from roads, construction, and general operation and covering the waste (R3150302-2(2)(g))**

All roads leading to the landfill are currently asphalt paved. Materials deposited in the landfill are usually deposited in a semi-moist condition. The natural seeding process of the site will consistently help establish vegetation on the surface of the deposited materials. No irrigation water will be applied to the site.

**Plan for litter control (R315-302-2(2)(h))**

This landfill will not accept any commercial or municipal type waste. Only the District's drinking water treatment solid residuals and clean earthen materials will be allowed at this mono-landfill site. Therefore, no debris that could cause litter will be placed in the landfill.

**Procedures for excluding the receipt of prohibited hazardous or PCB containing wastes (R315-302-2(2)(j))**

Hazardous water will be handled in accordance with all federal, state and local laws. These materials will not be permitted for disposal at the landfill. Only the District's drinking water treatment solid residuals and clean earthen materials will be allowed at this mono-landfill site.

**Procedures for controlling disease vectors (R315-302-2(2)(k))**

The waste materials in the proposed landfill are not attractive to disease vectors or support vector habitats, therefore no special method to control them is necessary. No water will be continuously sprayed or flowing into the landfill.

**A plan for alternative waste handling (R315-302-2(2)(l))**

In the event that the mono-landfill will need to suspend landfill operations, there are two on-site locations at the drinking water treatment facilities that would be used temporarily for several weeks, up to six months. If additional waste handling is required, the waste will be transported to the local municipal landfills.

**A general training and safety plan for site operations (R315-302-2(2)(n))**

Training will include the following topics:

- 1.0 Applicability
- 2.0 Frequency
- 3.0 Information and Awareness
- 4.0 Equipment Operation

## 5.0 Emergency Procedures and Notification

### 1.0 Applicability

- A. All landfill operators must have received the general site safety training prior to receiving this training. During regular safety meetings, waste identification and disposal methods will be discussed.
- B. All landfill operators will receive this training in addition to the general site safety training.
- C. A new or transferred employee who have not received this training may work at the landfill under the direct supervision of a trained landfill operator under; a) temporary or emergency conditions, or b) up to a period of 90 days.

### 2.0 Frequency

- A. All applicable employees will receive this training on an annual basis, or if significant changes occur at the landfill.

### 3.0 Information and Awareness

Training will include:

- A. A review of the landfill permit conditions.
- B. A list of acceptable and unacceptable waste for the landfill.
- C. Guidelines for maintaining the landfill, (fill, cover, inspections, etc.)
- D. Proper record keeping of wastes received.
- E. Unacceptable waste procedures (discussed in all safety meetings)
- F. Alternative waste disposal in the event that the landfill is unavailable.

### 4.0 Equipment Operation

The Safety Officer or their designee will determine that all landfill operators are trained in the proper operation of all landfill equipment.

### 5.0 Emergency Procedures and Notification

All landfill operators will be trained on proper landfill emergency notification procedures. Emergency procedures and/or contact numbers will be made available to all landfill operators.

### **Any recycling programs planned at the facility (R315-303-4(6))**

There are no recycling programs planned at the facility.

## **II FACILITY TECHNICAL INFORMATION**

### **IIa Maps**

#### **Topographic map showing boundaries of landfill site (R315-310-4(2)(a)(i))**

This Map is attached to this document in Appendix D.

**Most Recent U.S. Geological Survey topographic map of area (R315-310-4(2)(a)(ii))**

Refer to Appendix D for the most recent U.S. Geological Survey map.

**IIc Engineering Report – Plans, Specifications, and Calculations**

**Unit design to include cover design; fill methods; and elevation of final cover including plans and drawings signed and sealed by a professional engineer registered in the State of Utah, when required (R315-310-3(1)(b))**

This landfill is located in an existing excavated gravel mining pit. Water Treatment residual solids and clean earthen materials will be deposited as needed from the top West side of the pit and pushed into the pit on at least a weekly basis. In general the pit will be filled from the West end of the pit toward the East end of the pit. Once one 12-15 foot section of the pit is filled, it will be leveled and capped with native coarser material, if necessary, which consists of sand and gravel matrix. The operation will continue Easterly until the pit is nearly level with the existing terrain, at which time an evaluation will be made as to whether the entire landfill would need to be covered with additional native material and revegetated with native vegetation or a suitable alternative as recommended by the Director. Closure of the landfill will meet all requirements of R315-305-5(5)(b).

**Design and location of run-on and run-off control system (R315-310-5(2)(b))**

Since this is an existing pit, there will be no run-off from the landfill. The Interstate Highway 84 right-of-way is located South of the landfill pit and is up gradient. Over 90 percent of the run-on will be from the property to the North of the landfill property, but there is an irrigation canal between these properties and the landfill property. The irrigation canal catches any run-off from the rail-road property and properties to the North and carries it to the West, away from the landfill site. The canal will be inspected and maintained annually as needed to ensure continual operation.

**IIe. Closure Requirements**

**Closure plan (R315-310-3(1)(h))**

Weber Basin Water Conservancy District will, within 60 days after certification of closure, notify the Weber County Recorder to file proof of closure as outlined in R315-302-2(6). The Closure Plan is included in Section.

**Closure schedule (R315-310-4(2)(d)(i))**

Within 60 days of the scheduled completion of the landfill, Weber Basin Water Conservancy District will notify the Utah Division of Solid and Hazardous Waste (DSHW). Closure activities will commence within 90 days after deposition of the final volume of waste in the landfill, and

will be completed within 180 days of the start time. DSHW will be notified upon completion of closure to schedule the final inspection by the regulatory agencies.

#### **Design of final cover (R315-310-4(2)(c)(iii))**

The final cover system will be made as the pit is filled from West to East. There will be a compacted intermediate cover layer (12 inches of intermediate cover), of native coarse material. Since the deposited wasted material consists of fine silts and clays there is no need to add a low permeability soil on the cover to minimize infiltration. A vegetation layer of not less than 6 inches thick will then be applied and will consist of an organic composition that will support native and compatible plant life. The total depth of the final cover will be no less than 18-inches. The cover will then be hydro-seeded with the Northern Utah Department of Transportation recommended seed-mix.

#### **Capacity of site in volume and tonnage (R315-310-4(2)(d)(ii))**

Based on the original topography survey and the volume of the maximum inventory for the landfill will be approximately 220,000 cubic yards. The total volume of the landfill pit, with the final cover, is approximately 250,000 cubic yards. The average annual volume of loading of materials to the landfill is estimated to be approximately 2,400 cubic yards (2,190 tons) per year. The estimate life of the landfill, based on the above volumes and estimated loadings, was approximately 92 years in 2010 and is currently estimated at 70 years.

#### **Final inspection by regulatory agencies (R315-310-4(2)(d)(iii))**

Weber Basin Water Conservancy District will notify DSHW upon completion of closure to schedule the final inspection by the regulatory agencies.

### **IIf. Post-Closure Care Requirements**

#### **Post-closure care plan (R315-310-3(1)(h))**

Weber Basin Water Conservancy District will provide post closure activities that will include, at a minimum, monitoring of land and water, for a period of 30 years, or as long as the Director determines is necessary for the facility to become stabilized and to protect human health and environment. Class IIIb Landfills are not subject to ground water monitoring.

#### **Changes to record of title, land use, and zoning restrictions (R315-310-4(2)(e)(ii))**

Upon closure of the landfill, Weber Basin Water Conservancy District will notify the Weber County Recorder's Office to identify the property as a landfill site and to so designate that on the recorded property plat.

**Maintenance activities to maintain cover and run-on/run-off control systems (R315-310-4(2)(e)(iii))**

Qualified personnel will supervise the continued activities during the closure period. Once the final intermediate cover is placed and graded, landfill inspections will commence. Post Closure inspections and maintenance will commence on an annual and on-going schedule. The Post Closure Inspection Form is attached in the Appendix and will be used for the final closure inspection.

**List the name, address, and telephone number of the person or office to contact about the facility during the post-closure care period (R315-310-4(2)(e)(vi))**

Landfill Owner: Weber Basin Water Conservancy District  
Address: 2837 East Highway 193  
Layton, UT 84040  
Phone: 801-771-1677

**IIg. Financial Assurance Requirements**

**Identification of closure costs including cost calculations (R315-310-4(2)(d)(iv))**

The total area of the property is just over 12 acres with the area of the disposal pit being approximately 6 acres. It is intended that no more than ½ acre would be open as a landfill at any one time. For the intent of this section, the projected costs for closure of the landfill are limited to ½ acre of the pit. Since the material being deposited in the landfill are mostly inert sediments, the closure will be limited to the placement of the cover materials, top soil and vegetation. The costs are figured at 2020 costs and are included in the table below.

<u>Description of Work</u>	<u>Volume</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Place and compact Intermediate cover	810 c.y.	\$6.45/c.y.	\$5,224
Haul, place & compact vegetation layer	405 c.y.	\$13/c.y.	\$5,265
Hydro-seeding vegetation layer	1/2 acre	\$2,721/ac	\$1,360
		<b>TOTAL</b>	<b>\$11,850</b>

Within six months of the permit being issued, Weber Basin Water Conservancy District will meet the requirements for a Local Government Financial Trust for the sole purpose of ensuring the funding for the closure of the permitted landfill, with the minimum amount in the fund of \$11,850.

**Identification of post-closure care costs including cost calculations (R315-310-4(2)(e)(iv))**

The costs for inspecting and maintaining the landfill cover are estimated to be fairly minimal, since this is at or slightly below natural ground elevation and no slopes are involved. The costs are included below:

<u>Description of Work</u>	<u>Volume</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Inspection of the cover and surrounding area 33 times at 4 hrs per inspection	132 hrs	\$83.34/hr	\$11,000
Repair of damaged areas – estimated at 20 times at 8 hrs each	160 hrs	\$221.50/hr	\$35,440
Hydro-seeding repaired areas – estimated At a total of two acres over the 30 yrs	2 acres	\$4,855/ac	\$9,710
		<b>TOTAL</b>	<b>\$56,150</b>

**Identification of the financial assurance mechanism that meets the requirements of Rule R315-309 and the date that the mechanism will become effective (R319-309-1(1) and R315-310-3(1)(j))**

The Weber Basin Water Conservancy District is a conservancy district organized and existing pursuant to the provisions of SS17A-2-1301 et seq., Utah Code Annotated, 1953, as amended. As such, the District will provide a Local Government Financial Trust for the purpose of ensuring the funding for the closure and post-closure care of the permitted landfill.