



NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(Pursuant to the Solid Waste Disposal Regulations of the Nevada Administrative Code [NAC] 444.641.3[b])

Permittee/Operator Name: Western Elite Environmental, Inc. (WEEI)

Land Owners: Lincoln County
Bedroc Limited, LLC
Western Elite Environmental, Inc.

Facility Name: Western Elite Class I & III Landfill

Permit Number: SW277REV07

Description of Permit Modification

The existing facility is a Class III Industrial Waste area-fill disposal site located adjacent to US Hwy 93, approximately 65 miles north of Las Vegas, Nevada. The modification expands the facility to a Class I and III landfill, thereby adding approximately 234 acres to the permitted disposal area. The Western Elite Class I and III Landfill will continue to conduct groundwater and methane monitoring, and will be closed in accordance with the Closure and Post-Closure Plans included with the application for modification. The expansion areas will be constructed with a synthetic liner and a leachate collection system. Only waste identified in the Operating Plans will be disposed of in the existing or expansion areas of the landfill. No other wastes are permitted for acceptance at this facility.

Location Information

The disposal facility is located within the Coyote Spring Valley, adjacent to U.S. Highway 93, in Lincoln County, approximately 30 miles south of Alamo and 65 miles north of Las Vegas.

Proposed Action

The Nevada Division of Environmental Protection (Division) is proposing to approve and issue the modified Permit.

Facility Summary

Introduction

The existing Western Elite Class III Landfill is located adjacent to US Hwy 93 approximately 65 miles north of Las Vegas in Lincoln County, Nevada. The expanded disposal area will occupy approximately 381 acres (increased from 147), 88 acres of which will be designated as a new Class I disposal area. The disposal facility will continue to receive waste mainly from Lincoln County and the Las Vegas area.

General Information

The disposal facility is constructed with a synthetic liner and leachate collection system for the disposal of waste residue that does not meet the specifications for its composting and mulching operation. Within the footprint of the landfill, leachate from the Class I and Class III areas will be kept separate.

Location and Land Use

The property's legal description is the South Half (S ½), of the Southeast Quarter (SE ¼) and the Southeast Quarter (SE ¼), of the Southwest Quarter (SW ¼) of Section 24, East Half (E ½), of the Northwest Quarter (NW ¼), the Northeast Quarter (NE ¼), and the Southeast Quarter (SE ¼) of Section 25, Township 11 South, Range 62 East, Mount Diablo Baseline and Meridian.

The existing cells for the Class III disposal facility are located in Lot 5, a portion of Lot 1, and in Lots 9, 10, and 11. The southward expansion will encompass Lots 21 and 22 and portions of Lots 17 and 18 (Class III area), as well as Lots 23 and 24 and portions of Lots 19 and 20 (Class I area).



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The disposal facility site and WEEL's existing operations are located approximately 30 miles from the nearest inhabited dwelling and place of public gathering. The Pahrnagat Wildlife Refuge is located approximately 14 miles northeast of the site. Lands surrounding the project site are public lands administered by the Bureau of Land Management. These lands are undeveloped and considered open space.

The project area and adjacent lands are zoned M-2 Heavy Manufacturing. Other lands within one-mile of the site are zoned A-5 Agricultural and SID Special Industrial. The M-2 heavy manufacturing district is intended to provide areas for the development and operation of industrial and manufacturing uses. Uses permitted within this zone subject to a special use permit include salvage yards, recycling facilities and operations involving use, recovery or residue of hazardous materials and/or wastes.

Hydrogeologic Characteristics

Soil samples and observations obtained during mapping of available outcrops and the drilling of 17 soil borings on the existing facility and 9 soil borings in the expansion area indicate that the facility is underlain by interbedded Tertiary Period alluvial and lacustrine deposits with an apparent thickness of approximately 800 feet. Published literature and outcrop observations indicate Paleozoic rocks, which are predominantly carbonate in nature, underlie the unconsolidated valley fill.

Data obtained from the monitoring wells constructed at the facility indicate that the uppermost aquifer beneath the facility is present in the unconsolidated sediments at a depth of approximately 65 - 150 feet below existing natural grade, and as little as 40 feet below the disturbed grade in the existing sand and gravel pit located on the western portion of the facility. Available literature and field observations suggest that this upper aquifer is vertically continuous into the lower fractured bedrock.

Climate

Due to extreme temperatures and low average annual precipitation, the climatic conditions in southern Nevada at elevations below 5,000 feet are extremely dry and are classified as part of the Mojave Desert province.

The precipitation rate averages approximately 0.34 inch per month or 4.1 inches per year, with the "wet" season occurring between November and March. Temperatures in the region range from an average high of 106 degrees Fahrenheit in July to an average low of 34 degrees Fahrenheit in December and January, with a mean average daily temperature of 67 degrees Fahrenheit.

At low elevations in the region, vegetation is generally limited to drought and heat tolerant species. Published literature indicates that the regional vegetation primarily consists of agave, a variety of cactuses and yucca, black brush, creosote bush, and Joshua trees.

Topography

The site is located within the Coyote Spring Valley. The valley is bounded by the Sheep Range to the west, and the Delamar and Meadow Valley Mountains to the east. The Pahrnagat Wash is located within Coyote Spring Valley and transects portions of the project area. At the location of the landfill, the wash is approximately one mile wide, forming a relatively wide and flat floor of the valley.

No defined flow channel is present in Coyote Springs Valley in the vicinity of the landfill site. The gravel pits associated with the sand and gravel operation north of the site location, an elevated east-west roadway, and other earthen structures isolate the segment of Coyote Springs Valley in the vicinity of the landfill from surface water flow that may be generated upstream in the valley. Given the highly permeable nature of the shallow alluvium in the valley, it appears that water flow is confined to the subsurface in all but the most unusual of precipitation events.



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Design

The landfill is constructed in lifts and will have a final slope of 3H:1V on all four sides. When completed the top of the landfill will be approximately 540 feet above existing grade with diversion berms to slow any runoff and convey it to the nearest stormwater feature. Access roads to the site already exist. A perimeter road will be constructed for landfill development and access. Haul roads will be constructed to access the working face.

Cell Development

Due to the sand and gravel mining that has occurred on this site, the depth of excavation to base grade varies. All cells will be constructed with a synthetic liner and leachate collection system. To facilitate leachate collection and removal, the base grade in each cell is controlled to direct flow to the collection pipes, header pipes, and sumps. The order of cell construction is described in Section 6.1 of the Design Report.

Waste Placement

Waste will be spread in layers about 2 to 3 feet thick and compacted with a heavy tracked dozer or compactor. The process of placing and compacting 2-3 foot layers of waste will be repeated until a lift thickness of approximately 20 feet is reached. A minimum of six inches of cover soil will be placed over exposed compacted waste at the end of each working day (Class I area) or at the end of each working week or when the lift of waste is completed (Class III area). Cover material will come from cell construction activities and adjoining land owned by WEI, if necessary. Waste will be placed in this manner until final elevations are reached. Waste slopes that make up the exterior slope of the landfill will be constructed with slopes no greater than 3:1 and benches per the application drawings.

Initial lifts of waste will be placed on the cell floor. As the base grades are below the surrounding ground surface, initial waste placement activities will be screened from U.S. Highway 93. As the elevation of the working face reaches the grade of the surrounding ground surface, perimeter berms will be constructed. These berms, approximately 30 feet in height and consisting of waste material and 12 inches of cover material, will be constructed in advance of waste placement activities as necessary to provide visual screening of landfill operations from U.S. Highway 93.

Waste Types

The following waste types will be accepted in the Class III area:

- Construction and Demolition Waste
- Industrial Solid Waste
- Industrial Wash Water Sump and Grease Trap Waste
- Asbestos
- Construction and demolition waste from coal fired power plants containing only de minimis amounts of coal combustion byproducts
- Waste Tires
- Water Treatment Plant Solids/Biosolids
- Pulp and Paper Solids
- Automobile Shredder Residue

The following waste types will be accepted in the Class I area:

- Municipal Solid Waste as defined in NRS 444.490
- Industrial Wash Water Sump and Grease Trap Waste
- Waste Tires
- Sand-Oil Separator and Oil Soaked Waste
- Medical Waste
- Petroleum Contaminated Soil



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- Water Treatment Plant Solids/Biosolids
- Asbestos
- Animal Carcasses

No liquid waste, hazardous waste, septic tank pumpings, raw sewage, PCB waste, or any other waste not specifically identified for disposal in the Operations Plan will be accepted in either the Class I or Class III area.

Site Access

Access to the site can be achieved by an existing graded dirt road, which joins U.S. Highway 93 at mile marker 8, which travels west to the site. The access road will be maintained, as required, to service the existing composting and mulching operation, and the landfill. WEEI will maintain the access road for the life of the landfill so that the facility will be easily accessible in all weather to allow access by trucks transporting construction debris to the facility and composted mulch products from the plant.

Traffic associated with the project is expected to consist of long haul deliveries made by trucks with an approximate loaded gross weight of 40 tons. Incidental traffic by light passenger vehicles is also expected. No disposal of waste by the general public will be allowed.

Borrow and Stockpile Areas

Cell construction activities and adjacent land owned by WEEI will be utilized to provide the fill soil needed to achieve the base grade elevations. These borrow sources will also provide adequate quantities of soil for weekly, intermediate, and final cover. Stockpile areas will vary from time to time and shall be left up to the discretion of the landfill operator.

Liner

The disposal facility will be designed and constructed in accordance with NAC 444.733 through NAC 444.747. The liner system on the cell bottom in the Class III area will consist of the following components (from top to bottom):

- a. Drainage layer consisting of 18 inches of coarse aggregate with a permeability no less than 0.5 cm/sec;
- b. Protective cushion consisting of a non-woven, 16 oz./s.y. geotextile;
- c. Flexible membrane liner (60-mil textured HDPE); and,
- d. Prepared subgrade, smooth and generally free of rocks larger than ¾".

The liner system on the interior side slopes in the Class III area will consist of the following components (from top to bottom):

- a. Protective layer consisting of 18 inches of native soil of unspecified permeability;
- b. Drainage layer consisting of a 10 oz./s.y. geonet composite;
- c. Flexible membrane liner (60-mil textured HDPE); and,
- d. Prepared subgrade, smooth and generally free of rocks larger than ¾".

The liner system on the cell bottom in the Class I area will consist of the following components (from top to bottom):

- a. Operations layer consisting of 24 inches of select loose (uncompacted) waste;
- b. Drainage layer consisting of 12 inches of coarse aggregate with a permeability no less than 0.5 cm/sec;
- c. Protective cushion consisting of a non-woven, 16 oz./s.y. geotextile;
- d. Flexible membrane liner (60-mil textured HDPE);
- e. Compacted Soil Liner consisting of 36 inches of low-permeability soil (permeability less than or equal to 1×10^{-7} cm/sec); and,
- f. Prepared 12-inch subgrade, smooth and generally free of rocks larger than ¾".

The liner system on the interior side slopes in the Class I area will consist of the following components (from top to bottom):

- a. Operations layer consisting of 24 inches of select loose (uncompacted) waste;



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- b. Drainage layer consisting of 12 inches of native soil of unspecified permeability;
- c. Geocomposite;
- d. Flexible membrane liner (60-mil textured HDPE);
- e. Compacted Soil Liner consisting of 36 inches of low-permeability soil (permeability less than or equal to 1×10^{-7} cm/sec); and,
- f. Prepared subgrade, smooth and generally free of rocks larger than $\frac{3}{4}$ ".

Alternatively, the 36-inch low-permeability soil layer may be replaced with a Geosynthetic Clay Liner (max permeability 5×10^{-9} cm/sec) underlain by 12 inches of low permeability soil (1×10^{-7} cm/sec). The Permittee will evaluate material availability during cell construction to determine which option to use.

Installation

The technical specifications and the Construction Quality Assurance (CQA) Plan address such things as preparation of the subgrade, visual inspections of the prepared subgrade and acceptance by the liner installer prior to installation of liner, quality control testing during liner installation, FML layout plan, and seaming methods.

Location Relative to Groundwater Surface

Groundwater surface elevations within the limits of the facility range from approximately 35 to 150 feet below base grades, generally increasing in depth for cells located further south. Water level measurements, obtained in August 2019, were used to generate groundwater contours. These contours are shown on the Base Grading Plan.

Stability

Pursuant to NAC 444.6739 and NAC 444.6795, the stability of the disposal facility was evaluated by examining potential deep rotational failure through the waste and subgrade (bearing capacity), resulting in satisfactory factors of safety against rotational failure, sliding block failure along the liner interface, veneer failure between components of liner, and veneer failure between components of the cap.

General Leachate Collection and Removal System

The Leachate Collection and Removal System (LCRS) has been designed to meet the minimum requirements of the Nevada Solid Waste Disposal Regulations. Plans, cross-section views, details, and specifications are included in the design plans and design report. The LCRS described herein includes the following components:

- Aggregate drainage layer;
- Leachate collection piping and sumps;
- Pump stations; and,
- Leachate storage ponds (synthetically lined).

Leachate generated in the disposal unit will flow through the drainage layer, which consists of 18 inches of granular material on the bottom. The granular material will achieve a minimum permeability of 0.5 cm/sec. Each cell will be graded so that drainage will flow into perforated HDPE leachate collection laterals, with no more than 400 feet between laterals. These lateral pipes will then flow into perforated HDPE leachate header pipes running through the expansion area at a minimum of 1.3% downward grade in Cells 1-10 and at a minimum slope of 0.8% in cells 11-20. These pipes will carry leachate by gravity to one of seven prefabricated sump areas. From the sumps, leachate will be pumped into one of two lined leachate ponds. Leachate may be pumped from the ponds into tanker trucks for transport to a local wastewater treatment plant for treatment and disposal, if necessary.

Run-on Control Systems

The run-on control system for the facility has been designed to intercept and divert the upland run-on for at least a 100 year, 24-hour storm event. The SCS TR-55 method was used to calculate peak flows and storage volumes.



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Surface water flows from the approximately 170 square mile area primarily north and northwest of the site will be collected in a perimeter stormwater conveyance channel along the northern toe of the landfill that will convey the run-on to the SDA-2. Surface water from approximately 18 square miles primarily west of the site will be collected in a perimeter stormwater conveyance channel along the western toe of the landfill that will discharge to the Pahranaget Wash.

The remaining stormwater from the north and east is collected in the Pahranaget Wash, a tributary to the Muddy River, which bypasses the facility on the east. The potential 100-year, 24-hour storm event run-on volume for the Pahranaget Wash at a point located to the north east of the facility was calculated to verify that the existing tributary is adequate to provide storage and prevent encroachment on the perimeter berm of the facility.

The proposed expansion areas have been designed to prevent run-on from entering the active disposal area. The only drainage area that could contribute run-on to the active portion of the expansion area is the existing landfill's slopes. A series of diversion berms and drainage ditches will be in place on the eastern slope of the existing landfill prior to the construction of the expansion areas.

Run-off Control Systems

Run-off from the site will be carried by a system of diversion berms and downslope drains into one of two stormwater detention areas. The SCS TR-55 method was used to calculate peak flows and storage volumes. A 100-year, 24-hour storm event was used as the design basis for all of the run-off control systems; thereby, exceeding the minimum design criteria of the 25 year, 24-hour storm event required by NAC 444.6885.

To be conservative, all of the diversion berms on the landfill sideslopes were designed using the worst case (largest area and smallest time of concentration) ditch drainage area, which was calculated as 1 cfs. The berm design is a V-shaped ditch, 2 feet deep, 3H:1V sideslopes on the uphill side and 2H:1V sideslopes on the downhill side, and a 2 percent flow line slope. This design will provide drainage capacity for approximately 67 cfs, which provides a factor of safety of 67.

The sideslope ditches convey water to 18-inch diameter corrugated HDPE downslope drains, which provide a flow capacity of approximately 31.5 cfs. Each downslope drain collects run-off from the sideslope berms. Finally, the downslope drains discharge into either Stormwater Detention Area #1R (SDA-1R), SDA-2, or SDA-3R. To be most conservative, the stormwater detention area designs were based on the final grades of the landfill.

Landfill Gas Venting and Management System

A landfill gas monitoring program has been developed in accordance with NAC 444.670. Details of the landfill gas monitoring program can be found in the Decomposition Gas Management Plan submitted as part of the facility's application for modification in 2020.

Groundwater Monitoring System

A groundwater monitoring program has been developed in accordance with NAC 444.737. Details of the groundwater monitoring program are contained in the Groundwater Monitoring Plan submitted as part of the facility's application for modification in 2020.

Closure

A closure and post-closure monitoring plan has been developed in accordance with NAC 444.6895. Details of the closure and post-closure monitoring program are contained in the Closure Plan submitted as part of the facility's application for modification in 2020.



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Document Availability

The ADMINISTRATIVE RECORD, which includes the DRAFT PERMIT, and correspondence are available for public review by appointment between 8:00 AM and 5:00 PM, Monday through Friday, at the Division offices located at: 901 S. Stewart St., Suite 4001, Carson City, NV 89701-5249.

Contact: Paul Eckert at (775) 687-9477, or by e-mail at: PEckert@ndep.nv.gov

Procedure for Public Review

Questions or comments may be submitted on or before the end of the public comment period.

In writing: Paul Eckert, P.E.
Nevada Division of Environmental Protection
Bureau of Sustainable Materials Management
901 S. Stewart St., Suite 4001
Carson City, NV 89701-5249

Phone: (775) 687-9477; fax: (775) 687-5856; e-mail: PEckert@ndep.nv.gov; or web:
<http://ndep.nv.gov/admin/public.htm>

The Division's Notice of Intent to approve the modified Permit for the Western Elite Class III Landfill subject to the conditions contained in the Permit, will be published on the NDEP website. Additionally, the Public Notice will be mailed to interested persons on the Bureau's mailing list. The Division will accept written comments on the proposed draft permit from all interested persons until the end of the public comment period.

Will there be a public hearing?

The Division has not scheduled a public hearing. A request for a public hearing may be submitted in writing to the address shown above. If the request is granted, a separate public notice will be published for the meeting.

When does the comment period end?

The 30-day comment period ends at 5:00 p.m. on **April 19th 2021**. Anyone wishing to comment should do so in writing prior to this date. The Division may extend the comment period as deemed necessary.

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