DSHW-2020-014380

PAROWAN Class IVb
2020 LANDFILL REPERMIT APPLICATION

October 5, 2020

2702 South 1030 West, Suite 10
Salt Lake City, Utah 84119
Ph: 801.270.9400 Fax: 801.270.9401

TRANSMITTAL

TO:	Ty Howard State of Utah Department of Environmental Quality Division of Waste Management and Radiation Control 195 North 1950 West Salt Lake City, Utah 84114 Attn: Doug Taylor	DATE: 10/6/20 IGES JOB #: 00454 SENT VIA: Email

We are delivering to you the following:

Copies	Date	Description
1	10/6/20	Part I Parowan Class IIIb Repermit Application (Signed)
1	10/6/20	Class III Permit Checklist

X	For approval		Approved as submitted		Resubmit		Copies for approval
	For your use		Approved as noted		Submit		Copies for distribution
	As requested		Returned for corrections		Return		Corrected prints
	For your review and comment		Other				

Remarks:
Attached are PDF files associated with the Parowan Class IIIb Repermit Application. The files are intended to complete the repermit application submitted on 10/5/20. Please call or email with any questions or comments.

SIGNED: Brett Nicholson

***I.* Facility General Information**	
Description of Item	Location In Document
Ia. General Information For All Facilities	
Completed Part I General information	Part I
General description of the facility (R315-310-3(1)(b))	Part II, Section 1
Legal description of property (R315-310-3(1)(c))	Part II, Section 2, Appendix B
Proof of ownership, lease agreement, or other mechanism (R315-310-3(1)(c))	Appendix B
A demonstration that the landfill is not a commercial facility (see Utah Code Annotated 19-6-102(3) for definition of Commercial)	
Waste type and anticipated daily volume (R315-310-3(1)(d))	Part II, Section 1.2
Intended schedule of construction (R315-302-2(2)(a))	Part II, Section 3.1
Ib. General Information for New Or Laterally Expanding Class III Landfills	
Documentation that the facility has met the historical survey requirement of R315-302-1(2)(f) (R315-304-4(1)(a) or R315-304-4(2)(a)(iv))	NA – Existing Class IIIb Landfill
Name and address of all property owners within 1000 feet of the facility boundary (R315-310-3(2)(i))	NA – Existing Class IIIb Landfill
Documentation that a notice of intent to apply for a permit has been sent to all property owners listed above (R315-310-3(2)(ii))	NA – Existing Class IIIb Landfill
Name of the local government with jurisdiction over the facility site (R315-310-3(2)(iii))	NA – Existing Class IIIb Landfill
Ic. Location Standards for New Class IIIa Landfills (R315-304-4(1))	
Geology	
Geologic maps showing significant geologic features, faults, and unstable areas	NA – Existing Class IIIb Landfill
Maps showing site soils	NA – Existing Class IIIb Landfill
Surface water	
Magnitude of 24 hour 25 year and 100 year storm events	NA – Existing Class IIIb Landfill
Average annual rainfall	NA – Existing Class IIIb Landfill
Maximum elevation of flood waters proximate to the facility	NA – Existing Class IIIb Landfill
Maximum elevation of flood water from 100 year flood for waters proximate to the facility	NA – Existing Class IIIb Landfill
Wetlands	NA – Existing Class IIIb Landfill
Ground water	NA – Existing Class IIIb Landfill
Historic Preservation Survey	NA – Existing Class IIIb Landfill

***I.* Facility General Information**	
Description of Item	Location In Document
Id. Additional Location Standards for New Class IIIa Landfills Not On Waste Generation Site	
Land use compatibility (R315-304-4(1)(a))	NA – Existing Class IIIb Landfill
Maps showing the existing land use, topography, residences, parks, monuments, recreation areas or wilderness areas within 1000 feet of the site boundary	NA – Existing Class IIIb Landfill
Certifications that no ecologically or scientifically significant areas or endangered species are present in site area	NA – Existing Class IIIb Landfill
List of airports within five miles of facility and distance to each	NA – Existing Class IIIb Landfill
Ie. Location Standards for New Class IIIb Landfills	
Floodplains as specified in R315-302-1(2)(c)(ii) (R315-304-4(2)(a)(i))	NA – Existing Class IIIb Landfill
Wetlands as specified in R35-302-1(2)(d) (R315-304-4(2)(a)(ii))	NA – Existing Class IIIb Landfill
The landfill is located so that the lowest level of waste is at least ten feet above the historical high level of ground water (R315-304-4(2)(a)(iii))	NA – Existing Class IIIb Landfill
Historical Preservation Survey (R315-304-4(2)(a)(iv))	NA – Existing Class IIIb Landfill
If. Plan of Operations for All Class III Landfills (R315-310-3(1)(e) and R315-302-2(2))	
Description of on-site waste handling procedures and an example of the form that will be used to record the weights or volumes of waste received (R315-302-2(2)(b) And R315-310-3(1)(f))	Part II, Section 3.2
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))	Part II, Section 3.3, Appendix C
Contingency plans in the event of a fire or explosion (R315-302-2(2)(d))	Part II, Section 3.5
Plan to control fugitive dust generated from roads, construction, general operations, and covering the waste (R315-302-2(2)(g))	Part II, Section 3.8
Plan for letter control and collection (R315-302-2(2)(h))	Part II, Section 3.8
Procedures for excluding the receipt of prohibited hazardous or PCB containing wastes (R315-302-2(2)(j))	Part II, Section 3.2
Procedures for controlling disease vectors (R315-302-2(2)(k))	Part II, Section 3.8
A plan for alternative waste handling (R315-302-2(2)(l))	Part II, Section 3.6
A general training plan for site operations (R315-302-2(2)(o))	Part II, Section 3.10
Any recycling programs planned at the facility (R315-303-4(6))	Part II, Section 3.9
Any other site-specific information pertaining to the plan of operation required by the Director (R315-302-2(2)(p))	Part II, Section 3

***I.* Facility General Information**	
Description of Item	Location In Document
Ig. Ground Water Monitoring for Class IIIa landfills	
Ground Water Monitoring Plan (R315-304-5(4)(a)	NA – Existing Class IIIb Landfill
***II* Facility Technical Information**	
IIa. Maps for All Class III Landfills	
Topographic map drawn to the required scale with contours showing the boundaries of the landfill unit, ground water monitoring well locations (if required), and the borrow and fill areas (R315-310-4(2)(a)(i))	Appendix A
Most recent U.S. Geological Survey topographic map, 7-1/2 minute series, showing the waste facility boundary; the property boundary; surface drainage channels; any existing utilities and structures within one-fourth mile of the site; and the direction of the prevailing winds (R315-310-4(2)(a)(ii))	Appendix A
IIb. Geohydrological Assessment for Class IIIa Landfills (R315-310-4(2)(b))	
Local and regional geology and hydrology including faults, unstable slopes and subsidence areas on site (R315-310-4(2)(b)(i))	NA – Existing Class IIIb Landfill
Evaluation of bedrock and soil types and properties including permeability rates (R315-310-4(2)(b)(ii))	NA – Existing Class IIIb Landfill
Depth to ground water (R315-310-4(2)(b)(iii))	NA – Existing Class IIIb Landfill
Quantity, location, and construction of any private or public wells on-site or within 2,000 feet of the facility boundary (R315-310-4(2)(b)(v))	NA – Existing Class IIIb Landfill
Tabulation of all water rights for ground water and surface water on-site and within 2,000 feet of the facility boundary (R315-310-4(2)(b)(vi))	NA – Existing Class IIIb Landfill
Identification and description of all surface waters on-site and within one mile of the facility boundary (R315-310-4(2)(b)(vii))	NA – Existing Class IIIb Landfill
For an existing facility, identification of impacts upon the ground water and surface water from leachate discharges (R315-310-4(2)(b)(viii))	NA – Existing Class IIIb Landfill
Calculation of site water balance (R315-310-4(2)(b)(ix))	NA – Existing Class IIIb Landfill
IIc. Engineering Report - Plans, Specifications, And Calculations for All Class III Landfills	
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))	Appendix A
Design and location of run-on and run-off control systems (R315-310-5(2)(b))	Appendix A

***I.* Facility General Information**	
Description of Item	Location In Document
IId. Engineering Report - Plans, Specifications, And Calculations for Class IIIa Landfills	
Engineering reports required to meet the location standards of R315-304-4 including documentation of any demonstration or exemption made for any location standard (R315-310-4(2)(c)(i))	NA – Existing Class IIIb Landfill
Anticipated facility life and the basis for calculating the facility's life (R315-310-4(2)(c)(ii))	NA – Existing Class IIIb Landfill
Equipment requirements and availability (R315-310-4(2)(c)(iii))	NA – Existing Class IIIb Landfill
Identification of borrow sources for daily and final cover and for soil liners (R315-310-4(2)(c)(iv))	NA – Existing Class IIIb Landfill
Run-off treatment and disposal and documentation to show that any treatment system being used has been reviewed by the Division of Water Quality (R315-310-4(2)(c)(v) and R315-310-3(1)(i))	NA – Existing Class IIIb Landfill
IIe. Closure Requirements for All Class III Landfills	
Closure plan (R315-310-3(1)(h))	Part III, Section 2
Closure schedule (R315-310-4(2)(d)(i))	Part III, Section 2
Design of final cover (R315-310-4(2)(c)(iii))	Part III, Section 1
Capacity of site in volume and tonnage (R315-310-4(2)(d)(ii))	Part I
Final inspection by regulatory agencies (R315-310-4(2)(d)(iii))	Part III, Section 2.4
IIf. Post-Closure Care Requirements for All Class III Landfills	
Post-closure care plan (R315-310-3(1)(h))	Part III, Section 3
Changes to record of title, land use, and zoning restrictions (R315-310-4(2)(e)(v))	Part III, Section 3.2
Maintenance activities to maintain cover and run-on/run-off control systems (R315-310-4(2)(e)(iii))	Part III, Section 3.3
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))	Part III, Section 3.4
IIg. Financial Assurance Requirements for All Class III Landfills	
Identification of closure costs including cost calculations (R315-310-4(2)(d)(iv))	Appendix E
Identification of post-closure care costs including cost calculations (R315-310-4(2)(e)(iv))	Appendix E
Identification of the financial assurance mechanism that meets the requirements of Rule R315-309 and the date that the mechanism will become effective (R315-309-1(1) and R315-310-3(1)(j))	Part III, Section 4.3, Annual Reports

PAROWAN Class IVb
2020 LANDFILL REPERMIT APPLICATION

October 5, 2020

PAROWAN Class IVb
2020 LANDFILL REPERMIT APPLICATION

Submitted by:

IRON COUNTY
UTAH / EST. 1851

Prepared by

IGES, INC.

2702 South 1030 West, Suite 10

Salt Lake City, Utah 84119

October 5, 2020

ANNOTATED TABLE OF CONTENTS

Part	Title
	Introduction Includes summary of permit with technical and operational issues highlighted
I.	**General Information** Includes State of Utah Solid Waste Permit Application forms
II.	**General Report** Includes information required by Utah Administrative Rule R315-305
III.	**Technical Report** Includes information required by Utah Administrative Rule R315-305

APPENDICES

APPENDIX A – Drawings
APPENDIX B – Legal Description and Proof of Ownership
APPENDIX C – Landfill Forms
APPENDIX D – Soil Data
APPENDIX E – Financial Assurance

INTRODUCTION

This document presents an application to repermit and operate a construction and demolition (C&D) landfill near Parowan, on land owned by the City of Parowan and operated by the Iron County Solid Waste (ICSW) personnel. The existing class IVb landfill (Parowan Landfill) is located southwest of Parowan City and east of Highway 91. The Parowan Landfill is currently operated under permit number 9904R2 issued by the Utah Division of Waste Management and Radiation Control Board.

The area to be permitted is in Section 22, Township 34 South, Range 9 West, Salt Lake Baseline and Meridian, Iron County, Utah. Drawing 1 (Appendix A) shows the location of the landfill.

Part I of this document duplicates the standard form outlining General Information pertaining to the site. Part II is a General Report that includes a facility description and landfill operations plan. Part III is the Technical Report and includes details on the design of the site closure, post-closure care and financial assurance.

PART I – GENERAL INFORMATION

Part I General Information APPLICANT: PLEASE COMPLETE ALL SECTIONS.

I. Landfill Type	☐ Class IVa ☐ Class VI ☒ Class IVb	**II. Application Type**	☐ New Application ☒ Renewal Application	☐ Facility Expansion ☐ Modification	

For Renewal Applications, Facility Expansion Applications and Modifications Enter Current Permit Number 9904R2

III. Facility Name and Location

Legal Name of Facility
Iron County Class IVb Landfill (Parowan)

Site Address (street or directions to site) Approximately 1.0 mile southwest of Parowan				County Iron
City Parowan	State UT	Zip Code 84761	Telephone	
Township 34	Range 7	Section(s) 22	Quarter/Quarter Section	Quarter Section
Main Gate Latitude degrees 37 minutes 49 seconds 43		Longitude degrees 112 minutes 51 seconds 9		

IV. Facility Owner(s) Information

Legal Name of Facility Owner
Parowan City

Address (mailing)
P.O. Box 576

City Parowan	State UT	Zip Code 84761	Telephone (435) 477-3331

V. Facility Operator(s) Information

Legal Name of Facility Operator
Iron County Solid Waste

Address (mailing)
P.O. Box 743

City Cedar City	State UT	Zip Code 84721	Telephone (435) 865-7015

VI. Property Owner(s) Information

Legal Name of Property Owner
See Parowan Above

Address (mailing)

City	State	Zip Code	Telephone

VII. Contact Information

Owner Contact Iron County		Title	
Address (mailing) P.O. Box 743			
City Cedar City	State UT	Zip Code 84721	Telephone (435) 865-7015
Email Address		Alternative Telephone (cell or other)	
Operator Contact Bruce Anderson		Title Iron County Solid Waste Supervisor	
Address (mailing) P.O. Box 743			
City Cedar City	State UT	Zip Code 84721	Telephone (435) 865 7015
Email Address banderson@ironcounty.net		Alternative Telephone (cell or other)	(435) 704-4305
Property Owner Contact See Parowan Above		Title	
Address (mailing)			
City	State	Zip Code	Telephone
Email Address		Alternative Telephone (cell or other)	

Part I General Information (Continued)

VIII. Waste Types (check all that apply)

Waste Type	Combined Disposal Unit	Monofill Unit
☒ Construction & Demolition	☐	☐
☐ Tires	☐	☐
☒ Yard Waste	☐	☐
☐ Animals	☐	☐
☐ PCB's (R315-315-7(3) only)	☐	☐
☐ Other _____	☐	☐

Note: Disposal of dead animals must be approved by the Executive Secretary

IX. Facility Area

Facility Area	48.15	acres
Disposal Area	6	acres
Design Capacity		
Years	16	
Cubic Yards	110,595	
Tons	55,298	

X. Fee and Application Documents

Indicate Documents Attached To This Application

☐ Application Fee: Amount $

☐ Facility Map or Maps ☐ Facility Legal Description ☐ Plan of Operation ☐ Waste Description
☐ Ground Water Report ☐ Closure Design ☐ Cost Estimates ☐ Financial Assurance

Class VI Special Requirements

☐ Documents required by UCA 19-6-108(9) and (10)

I HEREBY CERTIFY THAT THIS INFORMATION AND ALL ATTACHED PAGES ARE CORRECT AND COMPLETE.

Signature of Authorized Owner Representative: David C. Matheson	Title: PAROWAN City Manager	Date: 10-5-2020
Name typed or printed: DAVID C Matheson	Address: 3	
Signature of Authorized Land Owner Representative (if applicable)	Title	Date
Name typed or printed	Address	
Signature of Authorized Operator Representative (if applicable): Alma L. Adams	Title: Commissioner	Date: 10-5-2020
Name typed or printed	Address	

PART II - GENERAL REPORT

TABLE OF CONTENTS

1.0 - FACILITY DESCRIPTION

The Parowan Class IVb Construction and Demolition Landfill is located on land owned by the City of Parowan and operated by Iron County Solid Waste (ICSW). The Parowan landfill is located as indicated on Drawing 1 (Appendix A). The Parowan Landfill is utilized primarily for the disposal of construction and demolition (C&D) related waste and the collection of recyclable materials (primarily metal). The Parowan Landfill (Landfill) will function as a Class IVb landfill in that it may accept over 20 tons per day of C&D waste while excluding all conditionally exempt small quantity generator hazardous waste. The Landfill is located immediately adjacent to the previously closed Parowan Municipal Landfill (PML). The topography surrounding the Landfill is defined by a narrow valley with gently sloping walls on the northern and southern edges. Due to the slight slope of the site, all site run-on is directed around the site and flows to the Parowan valley.

The main access road to the site has been paved for all-weather access. Access into the Landfill disposal area is via an improved and maintained dirt road. The facility is entirely fenced, with public access through the locking gate at the main entrance of the solid waste facility.

1.1 AREA SERVED

The Landfill primarily serves the residents of Iron County in the vicinity of Parowan. The majority of the solid waste disposal within Iron County takes place at the Iron Springs Landfill (ISL) west of Cedar City.

1.2 WASTE TYPES

Based upon the existing C&D waste stream and estimates of future trends; approximately 13 tons per day of C&D waste is expected to be delivered to the Landfill.

The waste diverted into the Landfill shall be limited to the following wastes:

- Yard Waste – brush, branches, clippings, leaves and grass.

- Construction Wastes – waste generated from construction and includes building materials used in construction. Construction related materials include packaging materials from products, waste lumber, wallboard, boxes from appliances, empty paint cans, empty caulking tubes, and empty sealer and adhesive cans. "EMPTY" means that no more than 10% of the product remains inside the container.
- Demolition Wastes – waste generated from the destruction or remodeling of buildings and houses. Demolition Wastes may include furnaces, pipes, ducting and water heaters. Furniture and other materials that are not part of the building structure must be removed before demolition.
- Untreated wood, including pallets and crates
- Asphalt from roads and other surfaces

Wastes materials that are specifically prohibited from Class IVb landfills include the following:

- Household Wastes (Municipal Solid Waste)
- Contaminated Soils
- Friable asbestos
- Tanks of any kind
- Railroad ties
- Cardboard not directly generated from construction or demolition activities
- Furniture of all kind
- Metal not directly generated from construction or demolition activities
- Electronics of all kind
- Treated lumber

1.3 FACILITY HOURS

The operating hours for the facility are 10:00 a.m. to 6:00 p.m. year round. The facility is open Tuesday thru Saturday with the following holidays being observed:

- New Year's Day

- Memorial Day
- Independence Day (July 4th)
- Pioneer Day (July 24th)
- Labor Day
- Thanksgiving Day
- Christmas Day

The following facility information is posted at the gate:

- Landfill Owner
- Days of Landfill Operation
- Hours of Landfill Operation
- Instructional Signs (no scavenging, no hazardous materials, dump in designated areas, etc.)
- Emergency Telephone Numbers

1.4 LANDFILL EQUIPMENT

The following equipment is on site and used in Landfill operations:

- D-6 Caterpillar Dozer
- 938 Caterpillar Loader
- Equipment as needed from the ISL operations

1.5 LANDFILL PERSONNEL

The following briefly presents the responsibilities for all on-site Landfill personnel at the Landfill:

Landfill Supervisor - The Landfill Supervisor (Supervisor) is responsible for all matters relating to the Solid Waste program for Iron County; including Landfill operations, drop boxes, and all recycling functions. The Supervisor is responsible that the Landfill operations meet all Division

of Waste Management and Radiation Control (DWMRC) permit requirements. The Supervisor conducts regular facility inspections and monitors all Landfill activities. The Supervisor is responsible for all operational documentation including the annual reports to DSHW. The Supervisor is responsible for all persons on the site including visitors.

Landfill Technicians – The Landfill Technicians (Technicians) are responsible for all day-to-day activities at the Landfill. These responsibilities include, waste acceptance and placement, traffic control, visual inspection of incoming waste, random waste screening operations, and general construction as it pertains to Landfill operations. The Technicians serve as both equipment operators and gate attendants.

2.0 - LEGAL DESCRIPTION

The Class IVb landfill is located on property currently owned by City of Parowan. The Class IVb facility is located in Township 34 South, Range 9 West, in Section 22, Salt Lake Baseline Meridian, Iron County, Utah.

A boundary survey with the legal description for the property is included as Appendix B. A copy of a tax notice from the Iron County Assessor's office is also included as proof of ownership.

3.0 – PAROWAN LANDFILL OPERATIONS PLAN

The Operation Plan for the Landfill has been written to address the requirements of Utah State Solid Waste Regulations and describes the proposed operations of the Parowan Class IVb Landfill. A more detailed separate document titled Operator's Manual - Iron County Landfill (prepared for the operations at the Iron Springs Landfill) contains supplemental information regarding overall operating procedures associated with landfilling practices. The Operator's Manual for the ISL is not included with this document.

The general arrangement of the Landfill is as indicated on Drawing 2 (Appendix A). The following section details the operational specifics of the Landfill. Forms used to document the operations of the Landfill are included in Appendix C.

3.1 SCHEDULE OF CONSTRUCTION

The Landfill was constructed west of the closed PML. Parowan stopped accepting waste at the PML in July 1995 with the construction of the final cover being completed immediately thereafter. The current Landfill commenced operation in the summer of 1999.

The construction and operation of the Landfill has been broken down into two Phases containing six total Cells (Drawing 3 – Appendix A); Phase A consisted of placing C&D waste across the bottom of the excavated cells. Phase A was constructed as 3 separate cells. Cell 1 was constructed next to the run-off control berm at the sites west side. Cell 2 was excavated from the southern half of Cell 1 eastward to the boundary of the PML. Cell 3 was excavated north of Cell 2 between Cell 1 and the PML. As of the summer of 2020, Cells 1, 2, and 3 were filled to capacity.

Phase B will systematically place C&D waste over Phase A. Phase B will consist of 3 cells (Cell 4, Cell 5, and Cell 6) starting with the placement of waste above Cell 1, progressing to waste disposal over Cell 2 and finally over Cell 3.

The operation of the Landfill will be continual in nature, the Phased arrangement is more of a design concept rather than actual operational milestones. Based on the actual waste stream, Phase A will provide operational airspace for the Parowan area through most of 2020. Phase B will commence operation as Phase A reaches capacity and last until approximately 2035. The landfill capacities were initially based upon a C&D waste stream starting at 3,900 tons per year and escalating at 5% each year thereafter. Actual data shows that there has been an overall decrease in the yearly waste stream in recent years. The future landfill life calculations are based on 13 tons per day over 260 operational days per year or approximately 3,400 tons per year.

3.2 DESCRIPTION OF WASTE HANDLING PROCEDURES

3.2.1 General

The waste control program is designed to detect and deter attempts to dispose of hazardous, municipal solid waste or other unacceptable wastes at the Landfill. The program is designed to protect the health and safety of employees, customers, and the general public, as well as to protect against the contamination of the environment.

The Landfill is open for public and private disposal. Signs are posted along the Landfill access road to clearly indicate (1) the types of wastes that are accepted at the C&D facility; (2) the types of wastes not accepted at the site; and (3) the penalty for illegal disposal.

- All vehicles delivering wastes to the site will be met at the gate by a Technician. The Technician will inquire as to the contents of each incoming load and enter the description of the vehicle and waste content into the Daily Log.

- The vehicle will be directed to either the drop off facility, working face, ISL operations, or rejected due to unacceptable materials.
- Any vehicle suspected of carrying unacceptable materials (liquid waste, sludges, or hazardous waste) will be prevented from entering the disposal areas unless the driver can provide evidence that the waste is acceptable for disposal at the site. ICSW reserves the right to refuse service to any suspect load. Vehicles carrying unacceptable materials will be required to exit the site without discharging their loads.

- Loads will be regularly surveyed at the tipping area. If a discharged load contains inappropriate or unacceptable material, the discharger will be required to reload the material and remove it from the Landfill. If the discharger is not immediately identified, the area where the unacceptable material was discharged will be cordoned off. Unacceptable material will be moved to a designated area for identification and preparation for proper disposal.

No open burning or smoking is allowed near the work face.

3.2.2 Waste Acceptance Records

A monthly summary of all landfill transactions will be created and kept on file at the Landfill or at the ISL operations. Any or all transactions may be retrieved as necessary.

3.2.3 Waste Disposal

The geometry of the Landfill is such that the waste will be pushed upslope into place. Since Phase A has largely been filled, the C&D wastes will be dumped at the toe of the work face when possible and spread up the slope in one to two foot lifts, keeping the slope at a typical five to one (horizontal to vertical) configuration.

Work face dimensions will be kept narrow enough to minimize blowing litter and reduce the amount of soil needed for cover.

Typically, the D-6 Dozer is operated with the bucket facing uphill. Equipment operations across the slope are avoided to minimize the potential of equipment tipping over. In addition to safety concerns, a toe of slope to crest of slope working orientation provides the following benefits:

- Increases effective compaction.
- Increased visibility for waste placement and compaction.
- More uniform waste distribution.

The wastes will be compacted by making three to five passes up and down the slope. Compaction reduces litter, differential settlement, and the quantities of cover soil needed. Compaction also extends the life of the site, reduces unit costs, and leaves fewer voids to help reduce vector problems. Care is taken that no holes are left in the compacted waste. Voids are filled with additional waste as they develop. Cover soils will be applied to all areas of the active cell at a minimum of every 30 days. Cover soil is placed with the 938 Loader and final graded with the D-6 Dozer.

3.2.4 Special Wastes – Wastes Excluded from the Landfill

3.2.4.1 Used Oil and Batteries

Used Oil and Batteries are not accepted at the Landfill. ICSW directs patrons with used oil to "Used Oil Recycling Centers."

3.2.4.2 Appliances

White goods are accepted at the Landfill and are separated for recycling. All appliances that contain or have contained refrigerants during their operation life are not accepted at the Landfill unless the patron can provide documentation of Freon removal prior to disposal. Used cars are accepted and stored near the facility entrance then transferred to the ISL operations.

3.2.4.3 Tires

The Landfill accepts small quantities of tires from the general public for shipping to a tire recycler. Commercial haulers are prohibited from disposing of tires. A total of four passenger tires are accepted from the public with each load. No tires are disposed of at the Landfill.

3.2.4.4 Dead Animals

Dead animals are not accepted at the Landfill. All dead animals are directed to the ISL operations.

3.2.4.5 Asbestos Waste

Asbestos waste is not accepted at the Landfill.

3.2.4.6 Grease By-Products

Grease By-Product wastes are not accepted at the Landfill.

3.2.4.7 Sewer Sludge

Sewer sludge of any nature (wet or dry) is not accepted at the Landfill.

3.3 WASTE INSPECTION

3.3.1 Landfill Spotting

Learning to identify and exclude prohibited and hazardous waste from the Landfill is required to maintain the Class IVb classification and necessary for the safe operation of the Landfill. The Technicians are required to receive initial and periodic hazardous waste screening inspection training. Waste screening certificates of the training received are kept in the personnel files.

3.3.2 Random Waste Screening

Random inspections of incoming loads are conducted at least weekly or on a minimum of 1% of incoming loads (whichever is greater). If frequent violations are detected, additional random checks will be scheduled at the discretion of the Supervisor.

If a suspicious or unknown waste is encountered, the Technician proceeds with the waste screening as follows:

- The driver of the vehicle containing the suspect material is directed to the waste screening area.
- The waste screening form (Appendix C) is completed.
- Protective gear is worn (leather gloves, steel-toed boots, and hard hat).
- The suspect material is spread out with landfill equipment or hand tools and visually examined. Suspicious marking or materials, like the ones listed below, are investigated further:
  - Containers labeled hazardous
  - Material with unusual amounts of moisture
  - Biomedical (red bag) waste
  - Unidentified powders, smoke, or vapors
  - Liquids, sludges, pastes, or slurries
  - Asbestos or asbestos contaminated materials
  - Batteries
  - Other wastes not accepted by the Landfill
- The Supervisor is called if unstable wastes that cannot be handled safely or radioactive wastes are discovered or suspected.

3.3.3 Removal of Hazardous or Prohibited Waste

Should hazardous or prohibited wastes be discovered during random waste screening or during tipping, the waste will be removed from the Landfill as follows:

- The waste will be loaded back on the hauler's vehicle. The hauler is then informed of the proper disposal options.
- If the hauler or generator is no longer on the premises and is known, they will be asked to retrieve the waste and informed of the proper disposal options.
- The Supervisor will arrange to have the waste transported to the proper disposal site and then bill the original hauler or generator.

A record of the removal of all hazardous or prohibited wastes will be kept in the site operational records.

3.3.4 Hazardous or Prohibited Waste Discovered After the Fact

If hazardous or prohibited wastes are discovered at the Landfill after the hauler has left the premises, the following procedure will be used to remove them:

- Access to the area will be restricted.
- The Supervisor will be immediately notified.
- The Technician will remove the waste from the working face if it is safe to do so.
- The waste will be isolated in a secure area of the Landfill and the area cordoned off.
- Local authorities will be notified as appropriate.

The DWMRC, the hauler (if known), and the generator (if known) will be notified within 24 hours of the discovery. The generator (if known) will be responsible for the proper cleanup, transportation, and disposal of the waste.

3.3.5 Notification Procedures

The following agencies and people are contacted if any hazardous materials are discovered at the Landfill:

- Bruce Anderson, Landfill Supervisor.....(435) 865-7015
- Southwest Utah Public Health Department.....(435) 586-2437
- Division Director, DWMRC.....(801) 536-0200
- Iron Co. Fire Department.....(435) 590-4714

A record of conversation will be completed as each of the entities is contacted. The record of conversation will be kept in the site operational records.

3.4 FACILITY MONITORING AND INSPECTION

3.4.1 Groundwater

The Landfill is not required to monitor groundwater.

3.4.2 Surface Water

Run-on diversion structures have been installed around the perimeter of the Landfill site during the initial construction. The diversion structures include both ditches and berms. Potential run-on waters will be diverted away from the working face of the Landfill.

In general, surface water that falls within the Landfill will naturally be contained in the active area of the landfill. All potential run-on will be directed away from the Landfill via berms.

Run-off from the final cover will be managed by a combination of berms and ditches. The berms will be placed to divert the water around the active area to ditches. The Drawings (Appendix A) illustrate the locations and details of the run-off control structures.

ICSW staff will inspect the drainage system monthly. Temporary repairs will be made as required to any observed deficiencies until permanent repairs can be scheduled. ICSW or a licensed general contractor will repair drainage facilities as required.

3.4.3 Leachate Collection

The Landfill is not required to collect or monitor leachate.

3.4.4 Landfill Gas

The Landfill is not required to monitor landfill gas.

3.4.5 General Inspections

Routine inspections are necessary to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to release of wastes to the environment or a threat to human health. Technicians are responsible for conducting and recording routine inspections of the landfill facilities according to the following schedule:

- Technicians (when operating equipment) perform pre-operational inspections of all equipment daily. A post-operational inspection is performed at the end of each shift while equipment is cooling down.
- All equipment is on a regular maintenance schedule. A logbook is maintained on each piece of equipment and any repairs and comments concerning the inspection are contained in the log. Oil samples are pulled when each machine is serviced and results are recorded in the machine log.
- Facility inspections are completed on a quarterly basis. Any needed corrective action items are recorded and the Technicians complete needed repairs. If a problem is of an urgent nature, the problem will be corrected immediately.

3.5 CONTIGENCY AND CORRECTIVE ACTION PLANS

The Iron County Fire Department will be contacted in all cases where hazardous materials are suspected to be involved. The following sections outline procedures to be followed in case of fire, explosion, run-on/run-off contamination, or suspected groundwater contamination:

3.5.1 Fire

The potential for fire is a concern in any landfill. The Landfill follows a waste handling procedure to minimize the potential for a landfill fire. If any load comes to the Landfill on fire, the driver of the vehicle will be directed to a pre-designated area away from the working face. The burning waste will be unloaded, spread out, and immediately covered with sufficient amounts of soil to smother the fire. Once the burning waste cools and is deemed safe, the material will then be incorporated into the working face. Some loads coming to the Landfill may be on fire but not detected until after being unloaded at the working face. If a load of waste that is on fire is unloaded at the working face, the load of waste will be immediately removed from the working face, spread out, and covered with soil.

The Iron County Fire department will be called if it appears that Landfill personnel and equipment cannot contain any fire at the Landfill. The Iron County Fire department will also be called if a fire is burning below the Landfill surface or is difficult to reach or isolate.

In case of fire, the Supervisor will be notified immediately. A written report detailing the event will be placed in the operating record within seven days, including any corrective action taken.

3.5.2 Explosion

If an explosion occurs or seems possible, all personnel and customers will be accounted for and the Landfill evacuated. Corrective action will be immediately evaluated and implemented as soon as practicable.

The Supervisor will be notified immediately and the Iron County Fire department called. The Executive Secretary will be notified immediately.

3.5.3 Failure of Run-On/Run-Off Containment

The purpose of the run-on/run-off control systems is to manage the stormwater falling in or near the Landfill. Were possible, water will be diverted away from the Landfill by utilizing ditches and berms. These ditches will be inspected on a regular basis and repaired as needed. All precipitation falling near the Landfill will flow around the perimeter towards the Parowan valley.

If a run-off ditch or berm fails, temporary berms or ditches will be constructed until a permanent run-off structure can be repaired.

Any temporary berms or other structures will be checked at least every 2 hours during the storm event until storm water flow has stopped. Permanent improvements or repairs will be made as soon as practicable.

The Supervisor will be notified immediately if a failure of the run-off systems is discovered. The event will be fully documented in the operating record, including corrective action within 14 days.

3.5.4 Groundwater Contamination

The Landfill has no ground water monitoring wells. If ground water contamination is ever suspected, studies to evaluate the potential contamination will be conducted and the existence and/or extent of contamination will be documented. This program may include the installation of ground water monitoring wells. A ground water monitoring program would be developed and corrective action taken as deemed necessary, with the approval of the Executive Secretary.

3.6 CONTINGENCY PLAN FOR ALTERNATIVE WASTE HANDLING

The most probable reason for a disruption in the waste handling procedures at the Landfill will be weather related. The Landfill may close during periods of inclement weather such as high winds, heavy rain, snow, flooding, or any other weather-related condition that would make travel or operations dangerous. The Landfill may also close for other reasons like fire, natural disaster, etc. In general, the ICSW staff minimizes the possibility of disruption of waste disposal services from an operational standpoint.

In case of equipment failure, replacement equipment will be mobilized from the ISL operations, or leased to continue operations while repairs are being made.

3.7 MAINTENANCE PLAN

3.7.1 Groundwater Monitoring System

The Landfill is currently exempt from requirements for groundwater monitoring. As a result, no groundwater monitoring system is planned.

3.7.2 Leachate Collection and Recovery System

The Landfill is currently exempt from requirements for leachate collection. As a result, no leachate collection and recovery system is planned.

3.7.3 Gas Monitoring System

The Landfill is currently exempt from requirements for a landfill gas monitoring system. No gas collection system is planned.

3.8 DISEASE AND VECTOR CONTROL

The vectors encountered at the Landfill are flies, birds, mosquitoes, rodents, skunks, and snakes. Due to the rural location of the landfill, stray house pets are occasionally encountered at the landfill. The program for controlling these vectors is as follows:

3.8.1 Insects

The elimination of breeding areas is essential in the control of insects. Landfill will minimize the breeding areas by covering the waste with soil at a minimum of every 30 days and maintaining surfaces to reduce ponded water.

3.8.2 Rodents

Reducing potential food sources minimizes rodent populations at the Landfill. Due to the nature of the C&D wastes, no significant numbers of mice or rats have been observed.

In the unlikely event of a significant increase in the number of rodents at the Landfill, a professional exterminator will be contacted. The exterminator would then establish an appropriate protocol for pest control in accordance with all county, state and federal regulations.

3.8.3 Birds

The Landfill has had minimal problems with birds. Good landfilling practices of waste compaction, daily covering of working faces, the minimization of ponded water, and the nature of the waste at the site has alleviated most of the bird problems. If the occasional need arises, the birds will be encouraged to leave by using cracker and whistler shells.

3.8.4 Household Pets

Because of the Landfills location, some stray cats and dogs may wander onto Landfill property. When stray animals are encountered (and can be caught), they are turned over to the animal

shelter. If the Technicians are unable to apprehend the animals, they are chased off the property.

3.8.5 Wildlife

The Landfill has a variety of wildlife located on or near the landfill property. Wildlife includes deer, snakes, foxes, skunks, and coyotes. If problem skunks or snakes are encountered, they will be exterminated. If other site wildlife becomes a problem, the Landfill staff will coordinate with the Division of Wildlife Resources to provide methods and means to eliminate the problem.

In the event that any of these vectors become an unmanageable problem, the services of a professional exterminator will be employed.

3.8.6 Fugitive Dust

The roads leading to the Landfill are paved, however; access roads to the Landfill are improved dirt/gravel roads and will need occasional dust control measures. General operational activities and site access by vehicles compounded by the occasional high wind may present a fugitive dust problem. If the dust problem elevates above the "minimum avoidable dust level", the Technicians will apply water to problem areas.

3.8.7 Litter Control

The nature of the C&D waste received at the Landfill is such that will naturally minimize the blowing of litter. However; due to the nature of Landfilling operations, blowing litter will still be an occasional problem. Landfill personnel perform routine litter cleanup to keep the Landfill and surrounding properties clear of windblown debris.

Whenever possible, the working face is placed downwind so that blowing litter is worked into the operating face. During windy conditions, landfill personnel minimize the spreading of the waste to reduce the amount of windblown debris.

3.9 RECYCLING

Currently, recycling activities are conducted in conjunction with the ongoing C&D operations. Metals, junk cars, and appliances are accepted at the Landfill and are transported to the ISL operations for recycling. Tree limbs are chipped and made available for public purchase.

3.10 TRAINING PROGRAM

As part of the initial training of new employees, the ISL Landfill Operator's Manual is required reading. All personnel are required to review the approved permit annually.

All personnel associated with the operation of the Landfill receive site specific training annually. The "Sanitary Landfill Operator Training Course" offered by the Solid Waste Association of North America (SWANA) is required by all employees. SWANA waste screening is also required of all Technicians. Certificates of completion are kept in personnel files.

Regular safety and equipment maintenance training sessions are held to ensure that employees are aware of the latest technologies and that good safety practices are used at all times.

3.11 RECORDKEEPING

An operating record is maintained as part of a permanent record on the following items:

- Number of vehicles entering the landfill and types of wastes received on a monthly basis. Daily logs forms are submitted to the ISL operations for processing.
- Deviations from the approved Plan of Operation.
- Personnel training and notification procedures.
- Random load inspection log.

3.12 SUBMITTAL OF ANNUAL REPORT

ICSW will submit a copy of its annual report to the Executive Secretary by March 1 of each year for the most recent calendar or fiscal year of facility operation. The annual report will include facility activities during the previous year and will include, at a minimum, the following:

- Name and address of facility.
- Calendar or fiscal year covered by the annual report.
- Annual quantity, in tons or volume, in cubic yards, and estimated in-place density in pounds per cubic yard of solid waste.
- Annual update of required financial assurances mechanism pursuant to Utah Administrative Code.
- Training programs completed.

3.13 INSPECTIONS

The Supervisor, or his/her designee, will inspect the facility to minimize malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of wastes to the environment or to a threat to human health. These inspections will be conducted on a quarterly basis, at a minimum. An inspection log (Appendix C) will be kept as part of the operating record. This log includes at least the date and time of inspection, the printed name and handwritten signature of the inspector, a notation of observations made, and the date and nature of any repairs or corrective actions. Inspection records are available to the Executive Secretary or an authorized representative upon request.

3.14 RECORDING WITH COUNTY RECORDER

Plats and other data, as required by the County Recorder, will be recorded with the Iron County Recorder as part of the record of title no later than 60 days after certification of closure.

3.15 STATE AND LOCAL REQUIREMENTS

The Landfill personnel will maintain compliance with all applicable state and local requirements including zoning, fire protection, water pollution prevention, air pollution prevention, and nuisance control.

3.16 SAFETY

Landfill personnel are required to participate in an ongoing safety program. This program complies with the Occupational Safety and Health Administration (OSHA), and the National Institute of Occupational Safety and Health (NIOSH) regulations as applicable. This program is designed to make the site and equipment as secure as possible and to educate landfill personnel about safe work practices.

3.17 EMERGENCY PROCEDURES

In the event of an accident or any other emergency situation, the Technician will immediately contact the Supervisor and proceeds as directed. If the Supervisor is not available, the Technician will call the appropriate emergency number posted by the telephone. The emergency telephone numbers are:

- Iron County Central Dispatch..... 911
- Fire Department.....(435) 590-4714
- Sheriff's Office.....(435) 867-7500
- Cedar City Hospital.....(435) 868-5000
- Bruce Anderson, Landfill Supervisor.....(435) 586-7015

PART III - TECHNICAL REPORT

TABLE OF CONTENTS

1.0 – ENGINEERING REPORT

1.1 CELL DESIGN

The Parowan Landfill (Landfill) has been broken into two Phases (A & B). The Permit Drawings show the two Phases in relation to the topography of the site. Phase A is the bottom or initial layer deposited in the excavated (below grade) portions of the Landfill; Phase B is the upper layer of waste placed over Phase A (above grade). The bottom elevation of Phase A was approximately 20 to 25 feet below the surrounding elevation. Filling of Phase A has been largely completed as of the summer of 2020, with the current landfill operation being conducted in Phase B. The Landfill site is located at approximately 5,940 feet above mean sea level.

The operation of the Landfill was conducted with Phase A divided into three separate Cells; with the first Cell (1) being constructed along the run-off berm at the western side of the site. The Cell 2 excavation provided operational cover for the waste being placed in Cell 1. The Cell 3 excavation soils were stockpiled for use as operational cover for the waste placed in Cell 2 and for use in all Phase B Cells.

Since Cells 1, 2, and 3 are to final grade; the second Phase of the Landfill has commenced operation. Phase B consists of the final 3 Cells of the Landfill. Cell 4 will be constructed over Cell 1; Cell 5 over Cell 2 and Cell 6 over Cell 3. Drawing 3 (Appendix A) shows the relative location of each Cell within each Phase.

1.1.1 Fill Method

As described in Section 3.2.3 of Part II – General Report, waste has been dumped at the toe of the working face and pushed uphill into place. The C&D wastes will continue to be dumped at the toe of the work face when possible and spread up the slope in one to two foot lifts, keeping the slope at a typical five to one (horizontal to vertical) configuration. The C&D wastes will then be compacted by making three to five passes up and down the slope.

1.1.2 Interim Cover

Interim cover will be placed in compliance with the DWMRC Class IV requirements. Section R315-305 stipulates that timbers, wood, and other combustible waste be covered as needed to avoid a fire.

1.1.3 Final Cover

As specified in Rule R315-305-5, the final cover will consist of a minimum of two feet of soil, the upper six inches of which will be topsoil material capable of sustaining native vegetation. The topsoil layer will then be seeded with indigenous grasses and other shallow rooted vegetation.

1.1.4 Final Cover Elevations

As discussed previously, the maximum elevation for the final cover is planned to be approximately 20 to 25 feet above surrounding grade along the west edge. The cover will slope upward at approximately 5% to the east to a final height of approximately 35 feet above the surrounding grade. The side slopes of the final cover is planned to be 4:1 (horizontal to vertical) with most of the upper portion of the Landfill being constructed to a uniform 5% slope. These slopes will allow for some settlement without compromising the run-off characteristics of the cover soil. Drawing 4 (Appendix A) details the topography of the final cover.

1.2 DESIGN AND LOCATION OF RUN-ON/RUN-OFF CONTROL SYSTEMS

Run-on control berms have been installed to intercept potential run-on precipitation from areas above the Landfill. Given the nature of C&D debris, most of the precipitation falling within the operating area of the Landfill will infiltrate. Any precipitation that does not infiltrate will be contained by the run-off control berms. The run-on and run-off control berms constructed are as indicated on Drawing 3 (Appendix A).

Since the Landfill operation is now above grade, storm water may drain from the operational face. As Phase B continues, additional perimeter ditches and berms will be constructed to route the water from the Landfill's operational face but maintain the water on-site. The initial design of these ditches was based on a 25-year 24-hour storm event of 2.3 inches and a run-off curve number of 73. TR55 computer software indicated a peak discharge of 2.23

cubic feet per second (cfs) from the 115 acres. IGES has reviewed the initial hydrological assessment along with site records and find the existing water diversion structures to be adequate.

1.3 REGIONAL GEOLOGY

The Landfill is located along the transition zone between two major physiographic provinces, namely the Basin and Range Province to the west and northwest and the Colorado Plateau to the east. Because the site is located in a physiographic transition zone, the general site vicinity is composed of a diverse mixture of topographic and geologic features. The Basin and Range Province is characterized by north-south trending block-faulted mountains separated by intermountain valleys. These valleys contain relatively thick deposits of semi-consolidated and unconsolidated alluvial material. The Colorado Plateau is characterized by high plateaus, which contain more continuous geologic strata. These plateaus were not as widely affected by the prevalent large-scale normal faulting that characterizes the Basin and Range Province. The transition zone between these two provinces contains geologic and physiographic features common to both provinces.

1.4 SITE SOILS

Test pits excavated in conjunction with the development of the Landfill indicate that the site is predominantly sands and gravels. Logs of test pits are included in Appendix D.

1.5 FLOODPLAIN

The Landfill is not located in a floodplain.

1.6 WETLANDS

The Landfill is not located in or near wetlands.

1.7 GROUNDWATER

The depth to groundwater; measured in a culinary well approximately ½ mile north of the Landfill; is greater than 200’.

2.0 – CLOSURE PLAN

2.1 CLOSURE SCHEDULE

The Landfill will be closed in two operations; the first closure will occur as the west half of Phase B is to final grade; and the last closure will take place once the entire Landfill is to final grade. As indicated in Part II – General Report, the Phases have been designated to facilitate access, development and design. Based on facility life calculations using a zero percent growth rate, closure is expected around the year 2035.

2.2 DESIGN OF FINAL COVER

As discussed previously, the final cover will consist of a minimum of two feet of soil six inches of which will consist of a topsoil material. The slopes of the side slopes of the final cover will be no steeper than a 4:1 (horizontal to vertical) with no portion of the final cover less than a 5% slope. The cover soil will be seeded with indigenous grasses.

2.3 CAPACITY OF SITE IN VOLUME AND TONNAGE

The Landfill capacity and projected life by Cell are presented in the following summary table:

ACTIVE CELL	YEAR	ESTIMATED DAILY C&D WASTE (Tons)*	DAYS OF OPERATION	ESTIMATED YEARLY C&D WASTE (Tons)	ESTIMATED YEARLY C&D WASTE (Cu. Yds.)	CUMULATIVE WASTE (Cubic Yards)	REMAINING LANDFILL CAPACITY (Cu. Yds.)
	2019	11	260	2,874	5,748	104,384	110,316
4	2020	13	260	3,380	6,760	111,144	103,835
4	2021	13	260	3,380	6,760	117,904	97,075
4	2022	13	260	3,380	6,760	124,664	90,315
4	2023	13	260	3,380	6,760	131,424	83,555
4	2024	13	260	3,380	6,760	138,184	76,795
5	2025	13	260	3,380	6,760	144,944	70,035
5	2026	13	260	3,380	6,760	151,704	63,275
5	2027	13	260	3,380	6,760	158,464	56,515
5	2028	13	260	3,380	6,760	165,224	49,755
6	2029	13	260	3,380	6,760	171,984	42,995
6	2030	13	260	3,380	6,760	178,744	36,235
6	2031	13	260	3,380	6,760	185,504	29,475
6	2032	13	260	3,380	6,760	192,264	22,715
6	2033	13	260	3,380	6,760	199,024	15,955
6	2034	13	260	3,380	6,760	205,784	9,195
6	2035	13	260	3,380	6,760	212,544	2,435

(Cells 1, 2, and 3 have been filled by the end of 2019)

Approximate Initial Waste Disposal Capacity (Cubic Yards) = 214,700

Gross Air Space is approximately 226,000 Cubic Yards

Net Air Space is approximately 214,700 Cubic Yards based upon a 5% reduction to allow for cover soils
Conversion of tons of waste to Cubic Yards of waste is based upon an estimated conversion rate

of 1,000 pounds per one Cubic Yard

2.4 FINAL INSPECTION

A final inspection will be performed at the Landfill site at the termination of landfilling activities. The final inspection will determine if the Landfill meets all the closure requirements as outlined in the permit and closure plans. The final inspection will be performed by both ICSW and State of Utah DWMRC personnel.

3.0 – POST-CLOSURE CARE PLAN

3.1 SITE MONITORING

There are no post-closure monitoring requirements for groundwater or gas at the Landfill since it is a Class IVb facility. However, other physical aspects of the Landfill will be monitored on a quarterly basis.

Landfill topography shall be visually checked for depressions that could result in ponding or rapid erosion. Irregularities in the surface of the final cover will be regraded and revegetated as needed to protect the surface from erosion and to eliminate ponding.

Side slopes will be maintained or reestablished with a maximum gradient of 4:1 and the top slopes will be maintained at no less than 5% to prevent ponding. The frequency of monitoring may be reduced only after a successful demonstration to the Executive Secretary that the closed Landfill has stabilized.

During the post-closure care period, run-off from the covered Landfill will be directed toward ditches constructed to collect and transport runoff to natural drainages west and northwest of the site. The ditches will be inspected quarterly through the post-closure period. Repairs to the ditches will be completed as part of the maintenance activities.

3.2 CHANGES TO RECORD OF TITLE, LAND USE AND ZONING

The Iron County Recorder will be provided plats and a statement of fact concerning the location of any disposal site no later than 60-days after certification of closure. If necessary, the closed Landfill will be rezoned to conform to the existing Iron County zoning regulations after final closure. A description of the Landfill history and filled areas will be permanently appended to the record of title. Land use restrictions will be assigned to the site in compliance with existing regulations for closed landfills at the time of closure.

3.3 MAINTENANCE

Post-closure maintenance activities will be designed and implemented under the direction of a licensed professional engineer in response to results of inspections. Design decisions will be made after the first post-closure quarterly inspection and implemented within 30-days

after identification of maintenance issues. Results of post-closure maintenance shall be reported to the Executive Secretary by a professional engineer licensed in the state of Utah.

Because of the arid climate in Iron County, maintenance of final covers and run-on/run-off systems should be minimal. Final cover and control structures will be inspected quarterly as indicated previously.

Run-on/run-off control structures and final covers could be damaged by an unusually intense storm. Consequently, an unscheduled inspection will be required after any occurrence of a 25-year storm event within a five-mile radius of the site. If the post-storm inspection discloses damage, it will be appraised by a licensed engineer. Iron County staff will solicit bids if necessary and supervise repair construction as necessary. Funds for payment for the repair work will be disbursed from the Financial Assurance Plan after approval by the Executive Secretary.

3.4 POST-CLOSURE CONTACTS

Iron County Courthouse.....(435) 477-8300

4.0 – FINANCIAL ASSURANCE

4.1 CLOSURE COSTS

The Parowan Landfill is planned to be closed in two separate events. After the western half of Phase B is to final grade; the first of the closure events will take place. The second closure event will be concurrent with the filling of the eastern half of Phase B to final grade. Due to the operational nature of the landfill; the largest area of the Landfill to be open will be the entire footprint of Phase B. The closure cost estimates are based on the cost to close the largest area, including the cost of obtaining, moving and placing the cover material, final grading, placing topsoil, fertilizing and seeding.

4.2 POST CLOSURE CARE COSTS

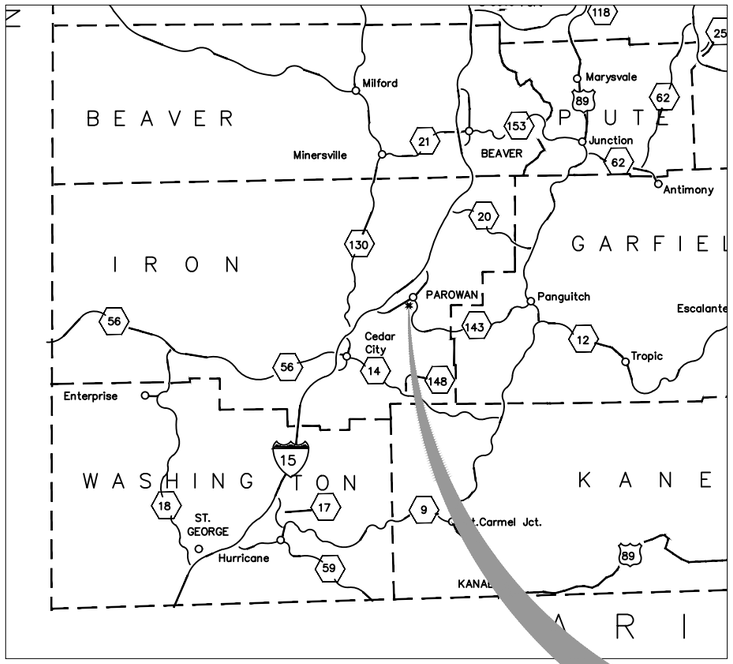
The post-closure estimate must be the cost for completing care reasonably expected during the 30-year post-closure period. These tasks include site inspections, maintenance, and record keeping.

4.3 FINANCIAL ASSURANCE MECHANISM

Iron County intends to comply with the financial assurance requirements by demonstrating financial ability based on the local government financial test. Detailed financial assurance costs are presented in Appendix E.

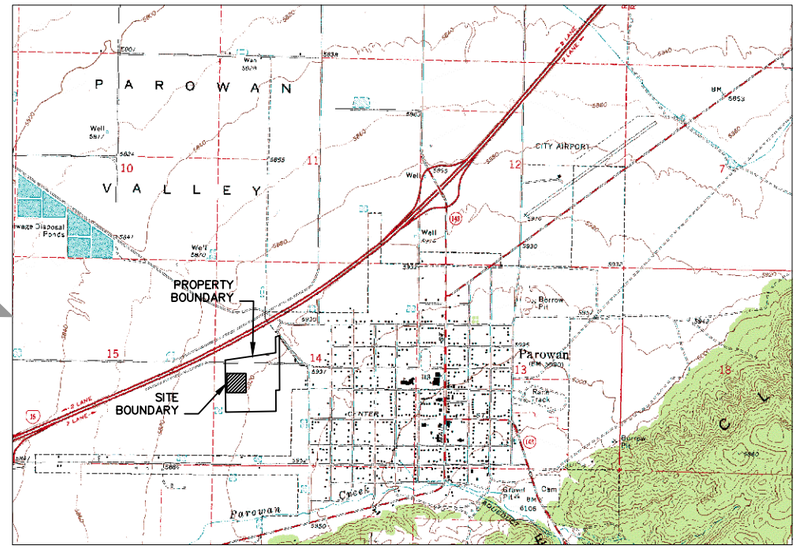
APPENDIX A

IRON COUNTY
PAROWAN CLASS IVb LANDFILL
2020 PERMIT RENEWAL



LOCATION MAP
(NOT TO SCALE)

VICINITY MAP



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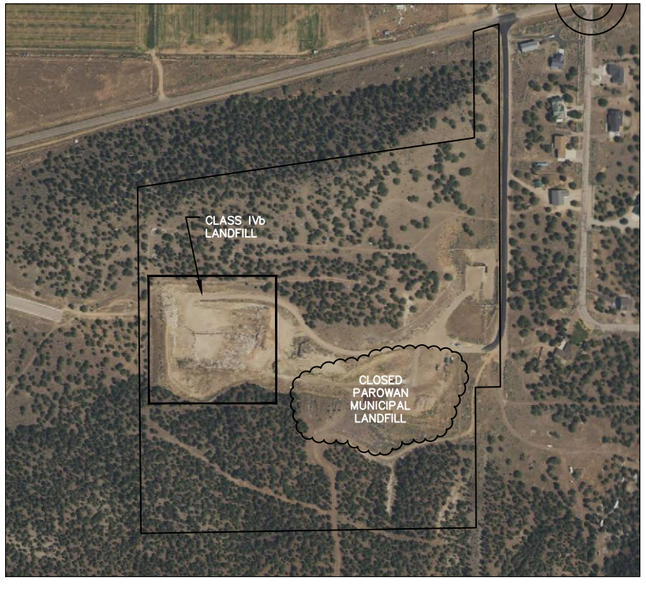
INDEX

SITE MAP



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SCALE IN FEET

PROPERTY BOUNDARY FROM SURVEY BY LESLIE AND ASSOCIATES (1999)

IRON COUNTY SOLID WASTE
3127 N IRON SPRINGS ROAD
CEDAR CITY, UT 84720
(435) 865-7015

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IGES
ideas for a changing world
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Salt Lake City, Utah 84119
(801) 270-9400
www.igesinc.com

MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

ISSUE:

SHEET TITLE

PAROWAN CLASS IVb
TITLE SHEET

REFERENCES:
BACKGROUND IMAGE: 2018 NATIONAL AERIAL IMAGERY PROGRAM (NAIP); UTAH AGRC
EXISTING TOPOGRAPHY: ESTIMATED BASED ON SITE PHOTOGRAPHS (JUNE 2010)

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MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

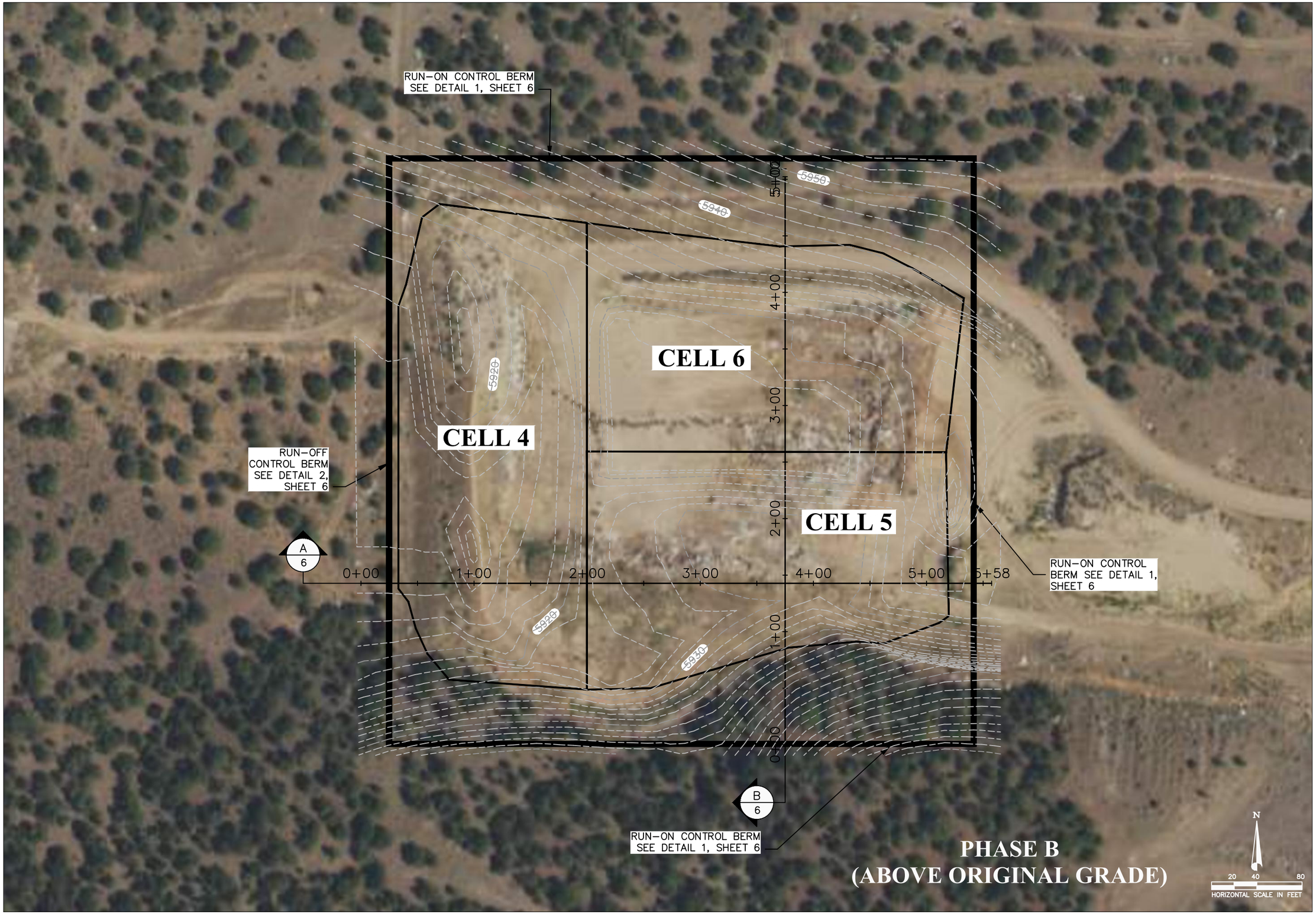
ISSUE:

SHEET TITLE

PAROWAN CLASS IVb

GENERAL ARRANGEMENT

2



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MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

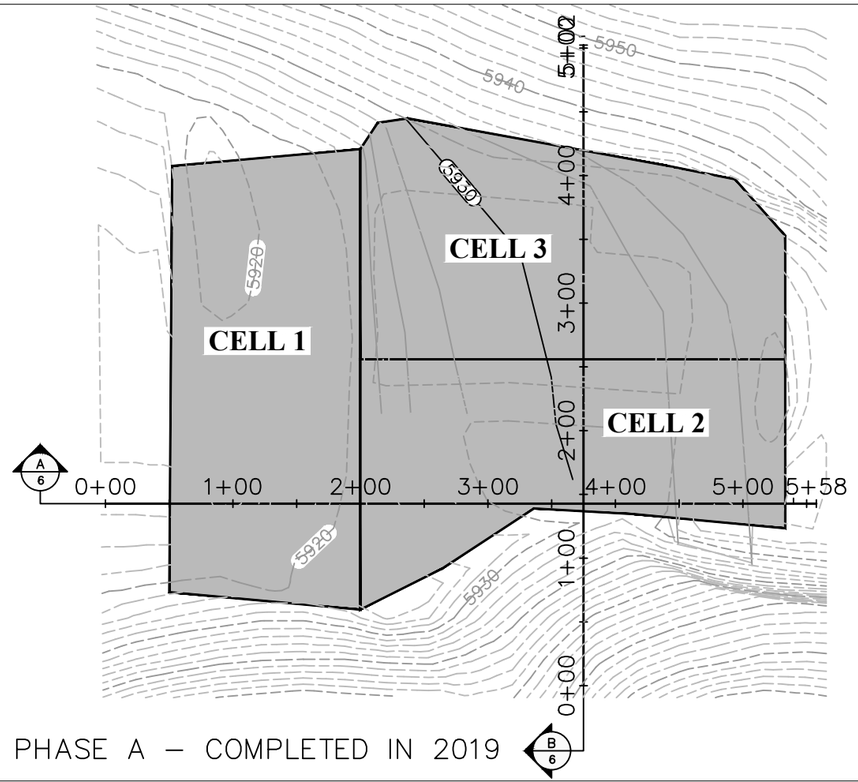
ISSUE:

SHEET TITLE

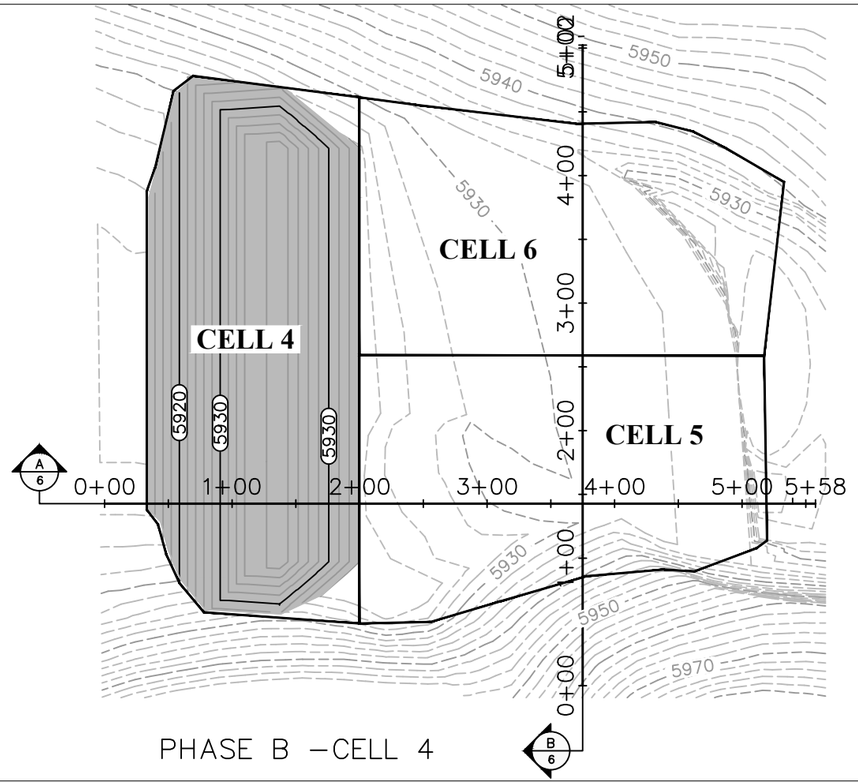
PAROWAN CLASS IVb

LANDFILL PHASING

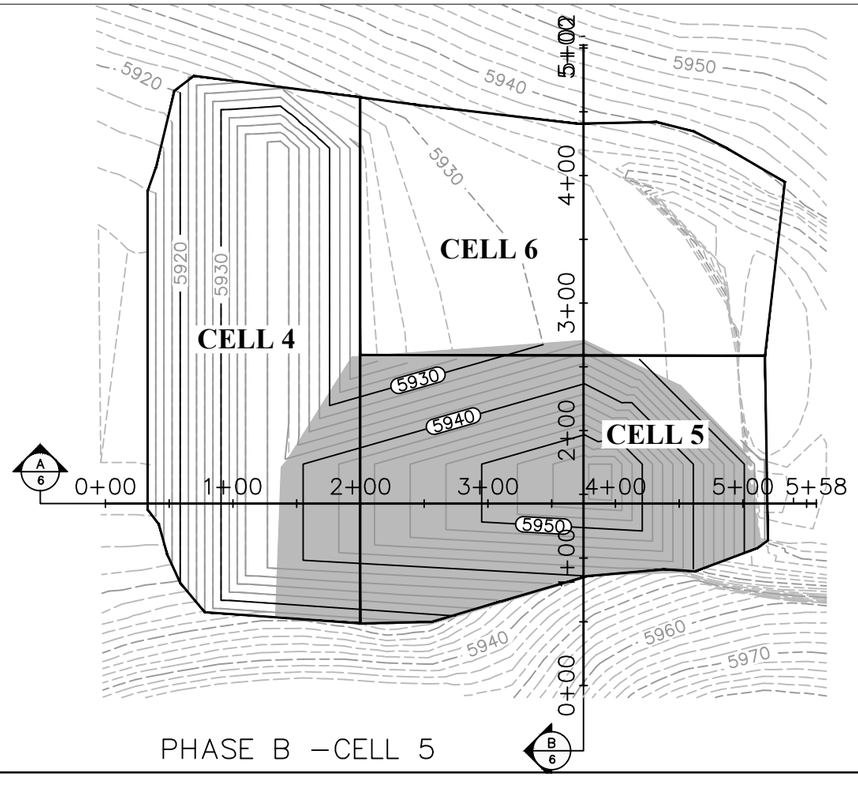
3



PHASE A – COMPLETED IN 2019



PHASE B –CELL 4



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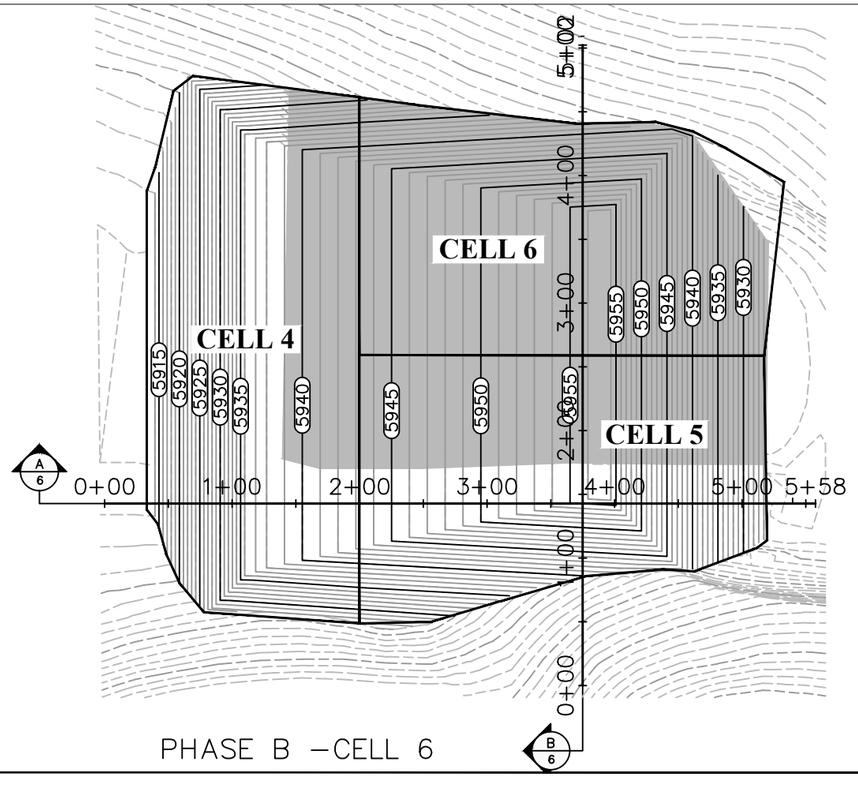


PHASE B –CELL 6

IRON COUNTY SOLID WASTE
3127 N IRON SPRINGS ROAD
CEDAR CITY, UT 84720
(435) 865-7015

CONSULTANTS
IGES
ideas for a changing world
2702 South 1030 West, Suite 10
Salt Lake City, Utah 84119
(801) 270-9400
www.igesinc.com

NOTES:
REMAINING AIRSPACE (CYD)
CELL 4: 33,800
CELL 5: 27,040
CELL 6: 49,755
TOTAL: 110,595

MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

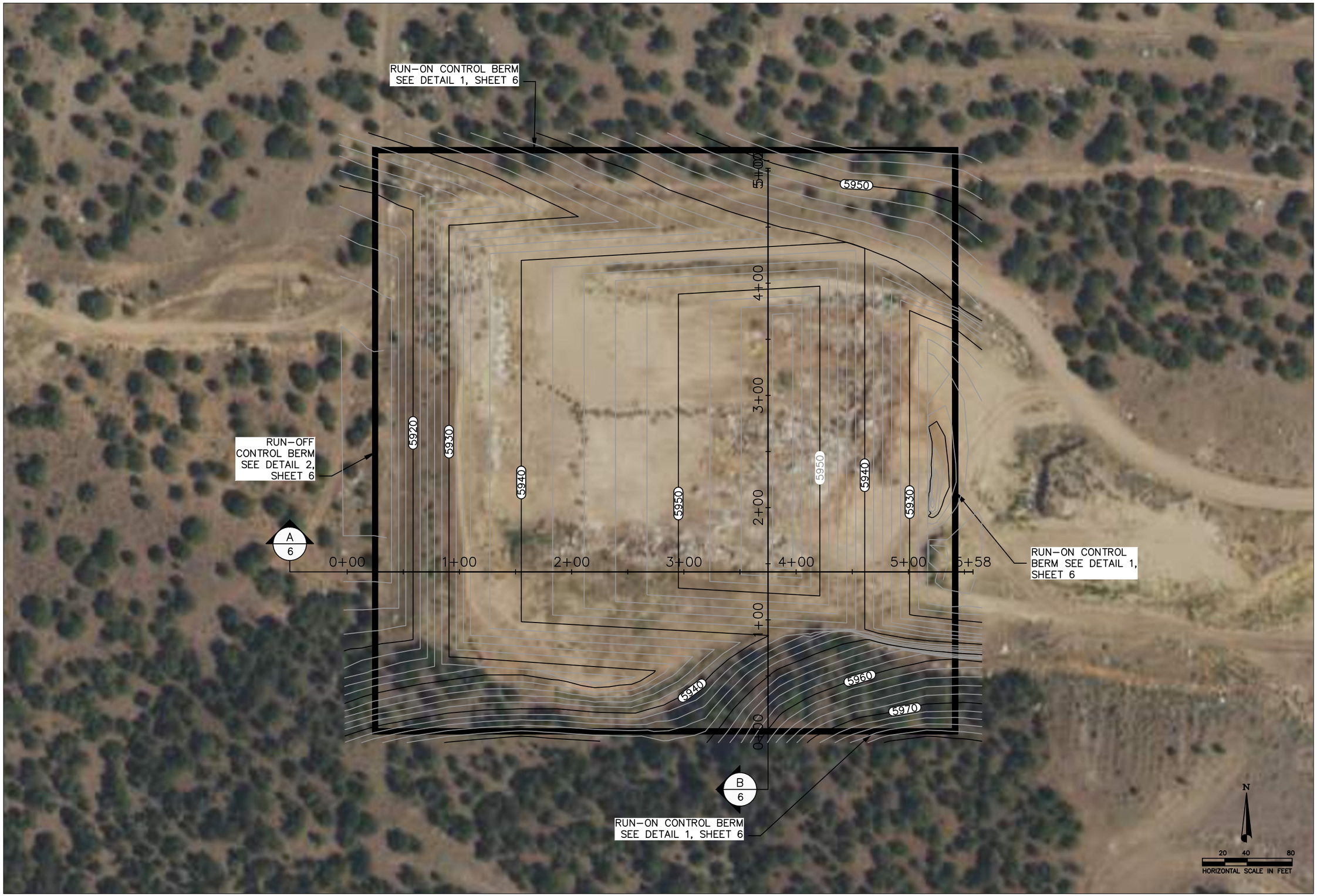
ISSUE:

SHEET TITLE

PAROWAN CLASS IVb

LANDFILL DEVELOPMENT

4



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CONSULTANTS

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2702 South 1030 West, Suite 10
Salt Lake City, Utah 84119
(801) 270-9400
www.igesinc.com

NOTES:
2 FT. CONTOUR INTERVAL SHOW REPRESENTS RELATIVE ELEVATION AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

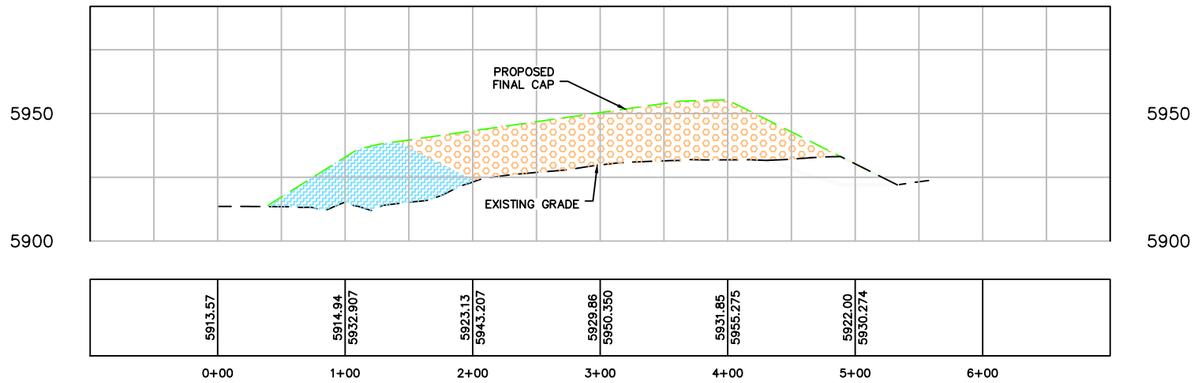
MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

ISSUE:

SHEET TITLE

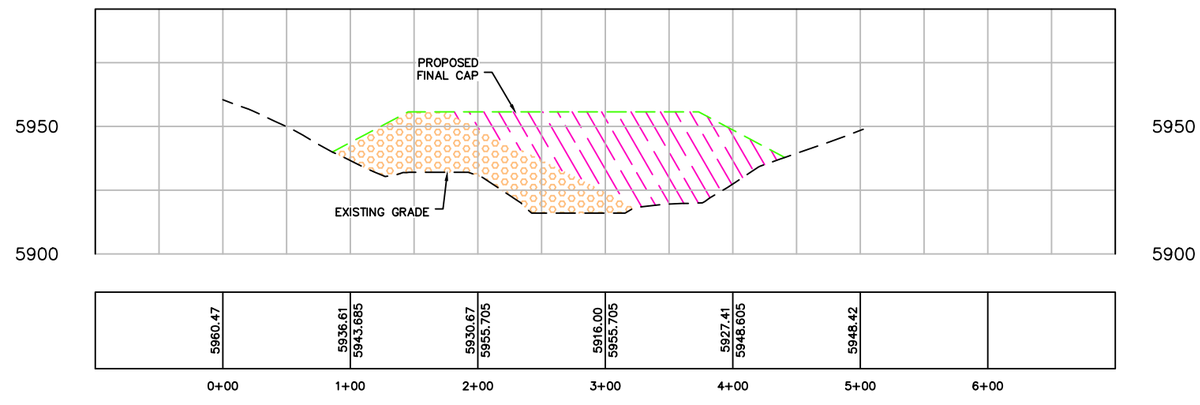
PAROWAN CLASS IVb

FINAL COVER



A
3-5

SECTION A (LOOKING NORTH)



B
3-5

SECTION B (LOOKING WEST)

30 60 120
HORIZONTAL SCALE IN FEET
(2X VERTICAL EXAGGERATION)

IRON COUNTY SOLID WASTE
3127 N IRON SPRINGS ROAD
CEDAR CITY, UT 84720
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Salt Lake City, Utah 84119
(801) 270-9400
www.igesinc.com

CELL 4
CELL 5
CELL 6

MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

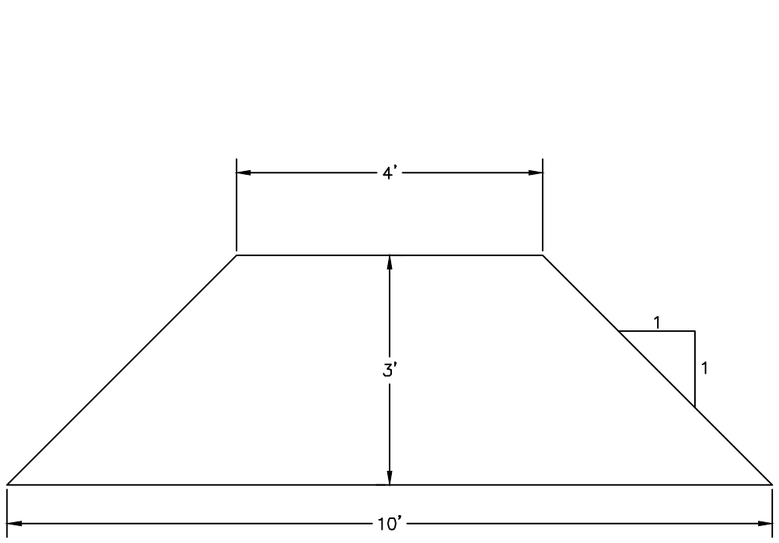
ISSUE:

SHEET TITLE

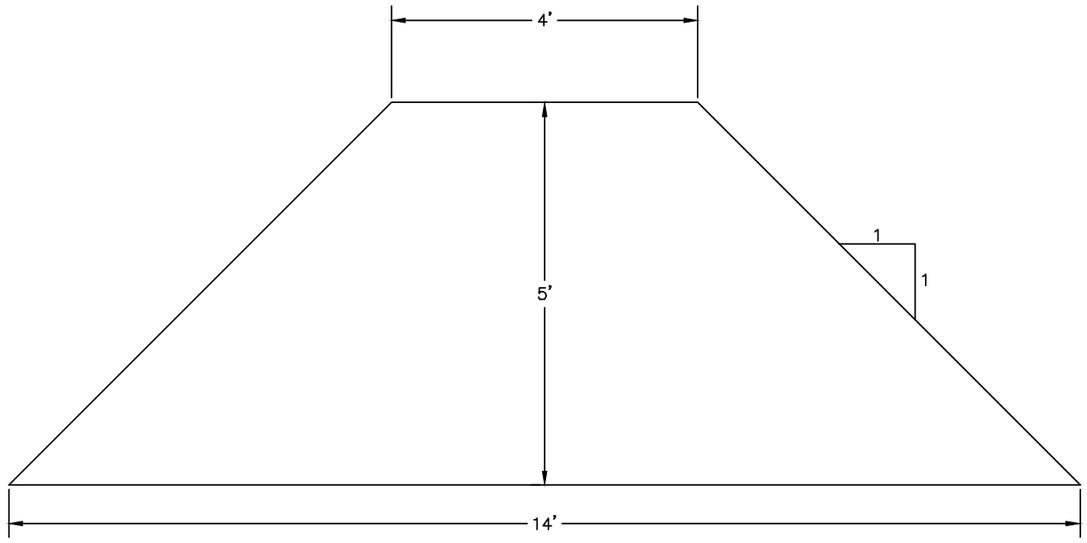
PAROWAN CLASS IVb

SECTION VIEW

6



DT-1 / 3 RUN-ON CONTROL BERM-TYPICAL CROSS SECTION



DT-2 / 3 RUN-OFF CONTROL BERM-TYPICAL CROSS SECTION

IRON COUNTY SOLID WASTE
3127 N IRON SPRINGS ROAD
CEDAR CITY, UT 84720
(435) 865-7015

CONSULTANTS
IGES
ideas for a changing world
2702 South 1030 West, Suite 10
Salt Lake City, Utah 84119
(801) 270-9400
www.igesinc.com

MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT UPDATE

ISSUE:

SHEET TITLE

PAROWAN CLASS IVb

DETAILS

APPENDIX B

PARCEL OWNERSHIP QUERY DATE: 08/20/04

SERIAL NUMBER ENTITY ACCOUNT YEAR ACREAGE DIST PARCEL ADDRESS

A-0516-0009-0000 0098811 2002 SO.26 01

OWNER. PAROWAN CITY

TAX NOTICE MAILED TO PAROWAN CITY
PO BOX 576

BOOK· 00791 PAGE· 00006 PAROWAN UT 84761-0576

ENTRY NUMBER. 00445156

P A R C E L D E S C R I P T I O N .

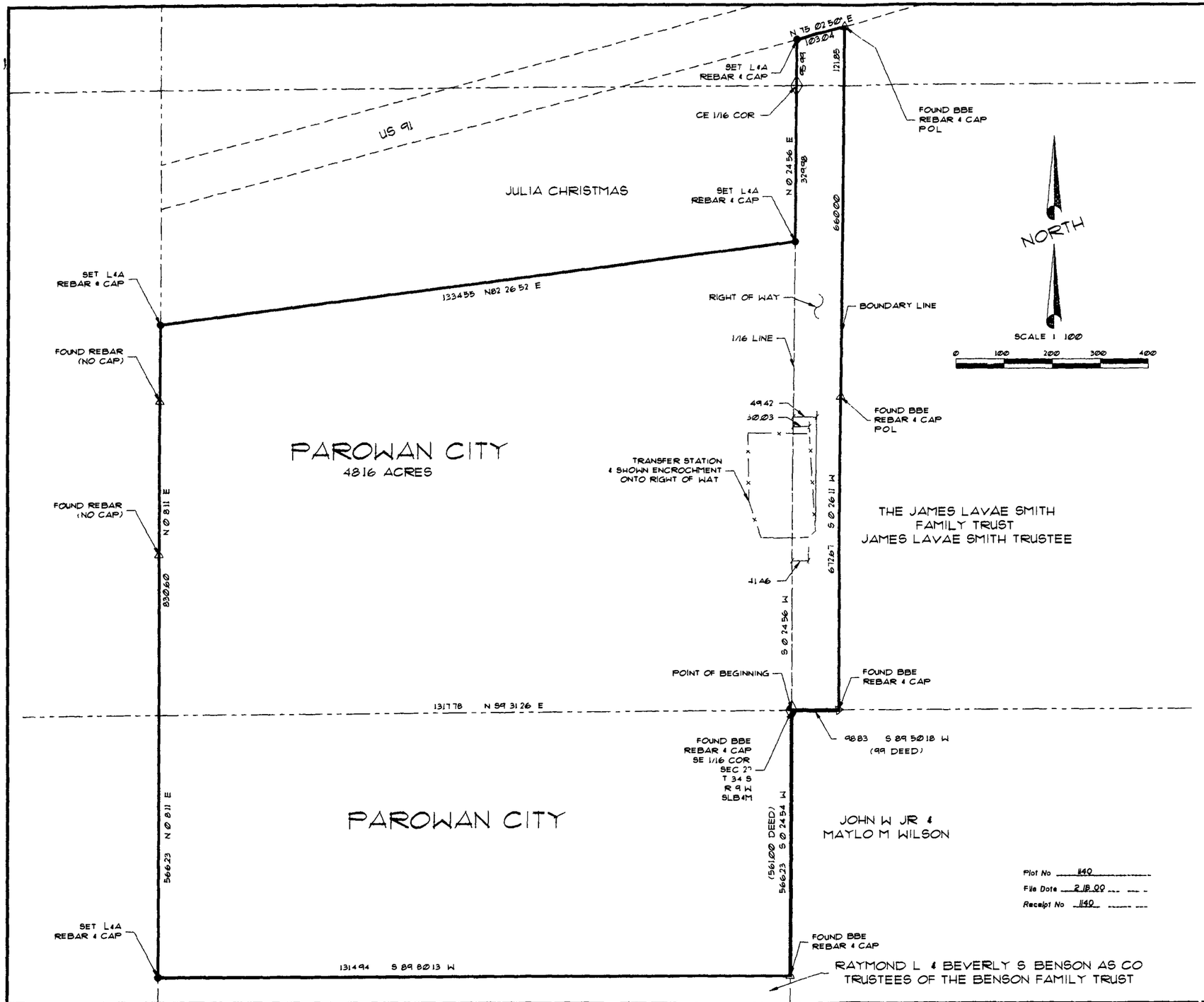
COM 20 RDS S FROM NE COR NW1/4SE1/4 SEC 22, T34S, R9W, SLM S'WLY TO PT 30 15 RDS S NW COR NW1/4SE1/4 SEC 22, S 49 85 RDS, E 80 RDS, N 60 RDS, ALSO WEST 6 RDS OF NE1/4SE1/4 & THE N 34 RDS, OF SW1/4 SE1/4 SEC 22, T34S, P9W, SLM.EXCEPT THER EFR THAT PORTION LIES WITHIN BORYS OF PAROWAN CITY (WAS C-1079-2) SUBJ TO EASE REL BK 791/6

1 = Browse Down 5 = Print Parcel Displayed
2 = Browse Up 6 = View Parcel Assessment
3 = View More Owner Names 7 = Return to Parcel Owner Menu
4 = View More Legal Description

Select.

Integers 0-9 only

I , ,ASD,P02,E ,RECORD7 2 CSN 1 new



Plat No 1140

File Date 2 18 00

Receipt No 1140

SURVEYOR'S CERTIFICATE

I PHYLIP JOHN LESLIE DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR THAT I HOLD CERTIFICATE NO 150778 AS PRESCRIBED BY THE LAWS OF THE STATE OF UTAH AND DO FURTHER CERTIFY THAT THIS PLAT IS A CORRECT REPRESENTATION OF DATA COMPILED FROM RECORDS ON FILE AT THE IRON COUNTY COURT HOUSE FROM DATA COLLECTED FROM A SURVEY PERFORMED IN THE FIELD

REGISTERED LAND SURVEYOR
PHYLIP JOHN LESLIE
4098
STATE OF UTAH
7/30/99

PROPERTY DESCRIPTION

BEGINNING AT THE SOUTHEAST 1/16 CORNER OF SECTION 22 TOWNSHIP 34 SOUTH RANGE 9 WEST SALT LAKE BASE & MERIDIAN THENCE SOUTH 0 24 54 WEST 566.23 FEET TO A FOUND REBAR AND CAP MARKED BBE THENCE SOUTH 89 50 13 WEST 1314.94 FEET THENCE NORTH 0 08 11 EAST 566.23 FEET TO THE 1/16 LINE OF SAID SECTION 22 THENCE NORTH 0 08 11 EAST 830.60 FEET THENCE NORTH 82 26 52 EAST 1334.35 FEET THENCE NORTH 0 24 56 EAST 329.98 FEET TO THE CENTER EAST 1/16 CORNER OF SAID SECTION 22 THENCE NORTH 0 24 56 EAST 65.91 FEET THENCE NORTH 75 02 50 EAST 1030.24 FEET TO A FOUND REBAR AND CAP MARKED BBE THENCE SOUTH 0 26 11 WEST 121.85 FEET TO THE 1/16 LINE THENCE CONTINUING SOUTH 0 26 11 WEST 660.00 FEET TO A FOUND REDAR AND CAP MARKED BBE THENCE CONTINUING SOUTH 0 26 11 WEST 672.67 FEET TO A REBAR AND CAP MARKED BBE THENCE SOUTH 89 50 13 WEST 98.83 FEET TO THE POINT OF BEGINNING CONTAINING 4816 ACRES

BEING FORMERLY DESCRIBED AS FOLLOWS

COMMENCING 20 RODS SOUTH FROM THE NORTHEAST CORNER OF THE NORTHWEST 1/4 SOUTHEAST 1/4 SECTION 2 TOWNSHIP 34 SOUTH RANGE 9 WEST SALT LAKE BASE AND MERIDIAN THENCE SOUTHWESTERLY TO A POINT 38.15 RODS SOUTH OF THE NORTHWEST CORNER OF THE NORTHWEST 1/4 SOUTHEAST 1/4 OF SECTION 22 THENCE SOUTH 49.83 RODS THENCE EAST 20 RODS THENCE NORTH 60 RODS

6 RODS OF THE NORTHEAST 1/4 SOUTHEAST 1/4 AND THE NORTH 34 RODS OF THE SOUTHWEST 1/4 SOUTHEAST 1/4 OF SECTION 22 TOWNSHIP 34 SOUTH RANGE 9 WEST SALT LAKE BASE AND MERIDIAN EXCEPT THERE AFTER THAT PORTION THAT LIES WITHIN THE BOUNDARIES OF THE COUNTY ROAD

COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 22 TOWNSHIP 34 SOUTH RANGE 9 WEST SALT LAKE BASE AND MERIDIAN THENCE NORTH 90 FEET TO THE SOUTH BOUNDARY OF THE RIGHT OF WAY FOR US HIGHWAY 91 THENCE NORTHEASTERLY ALONG THE SOUTH RIGHT OF WAY BOUNDARY OF US HIGHWAY 91 6 RODS THENCE SOUTH 120 FEET THENCE WEST 6 RODS TO THE POINT OF BEGINNING

NARRATIVE

1. THE PURPOSE OF THIS SURVEY WAS TO ESTABLISH THE CORNERS AROUND A PIECE OF PROPERTY PURPORTED TO BE OWNED BY PAROWAN CITY

2. THE CORNERS WERE ESTABLISHED USING FOUND CORNERS AND A PREVIOUS SURVEY PERFORMED BY BULLOCH BROTHERS ENGINEERING INC PLAT NO 204 WHICH IS ON FILE AT IRON COUNTY

3. THE BASIS FOR BEARINGS IS SOUTH 0 24 56 WEST BETWEEN THE CENTER EAST 1/16 CORNER OF SECTION 22 TOWNSHIP 34 SOUTH RANGE 9 WEST SALT LAKE BASE AND MERIDIAN AND THE SOUTH EAST 1/16 CORNER OF SAID SECTION 22 WHICH WAS TAKEN FROM A RECORD OF SURVEY PLAT NO 204 FILED BY BULLOCH BROTHERS ENGINEERING

4. THIS SURVEY DOES NOT CONSTITUTE PROOF OF OWNERSHIP

LEGEND

- R/W LINES & LOT LINES
- FENCE LINES
- PROPERTY LINES
- SET 1/2 REBAR WITH PLASTIC CAP STAMPED RLS 150778
- FOUND PROPERTY CORNER SET BY BULLOCH BORTHERS ENGINEERING INC STAMPED BBE
- R/W MARKERS FOUND
- SECTION LINES
- R/W MARKERS RE ESTABLISHED (NOT SET)
- EASEMENT LINES
- CORNERS SET BY PREVIOUS SURVEY
- FOUND SECTION CORNERS
- REESTABLISHED SECTION CORNERS

JOB NUMBER 172-02-01	REVISIONS DATE	CONSULTANTS
DRAWN BY Ryo Judd DATE JUNE 08, 1999		
CHECKED BY DATE		

LESLIE & ASSOCIATES
444 South Main Street
Cedar City Utah 84720
Phone (435)586-9474
FAX (435)586-8399
CIVIL ENGINEERS
LAND SURVEYORS

PROJECT: BOUNDARY SURVEY FOR PAROWAN CITY DUMP
SECTION 22 T34S R9W SLB&M PAROWAN UTAH

SHEET TITLE: RECORD OF SURVEY

1 OF 1

APPENDIX C

IRON COUNTY LANDFILL
RANDOM LOAD INSPECTION RECORD
C & D LANDFILL
PAROWAN

INSPECTION INFORMATION	
Inspector's Name:	
Date of Inspection:	
Time of Inspection:	
Facility Name:	
TRANSPORTATION COMPANY INFORMATION	
Company Name:	
Address:	
Phone Number:	
VEHICLE INFORMATION	
Driver's Name:	
Vehicle Type:	
Vehicle License Number:	
Vehicle Contents:	❒ HOUSEHOLD ❒ COMMERCIAL ❒ OTHER _____
OBSERVATIONS AND ACTIONS TAKEN	

Photo Documentation: _____ Yes _____ No

Inspector's Signature _____ Date _____

Driver's Signature _____ Date _____

Driver's Signature hereon denotes: His presence during the inspection and does not admit, confirm, or identify liability.

IRON COUNTY PAROWAN

LANDFILL INSPECTION FORM

PREFORMED BY: _____ DATE: _____

OVERALL CONDITION

	SATSFACTIONRY	**NEEDS WORK**
1. STRUCTURCTURS AND ROADS		
1. BUILDINGS	_____	_____
2. FENCES	_____	_____
3. GATES	_____	_____
4. ROADS	_____	_____

SPECIFY RECCOMENDED REPAIRS AND/OR LIST ACTIONS TAKEN: _____

_____

_____

2. OPERATIONS		
1. LITTER & WEEDS	_____	_____
2. FINALCOVER	_____	_____
3. SEGREGATED WASTE		
A. SCRAP METAL	_____	_____
B. APPLIANCES	_____	_____
C. TREE LIMB/ PALLETS	_____	_____

SPECIFY RECCOMENDED REPAIRS AND/OR LIST ACTIONS TAKEN: _____

_____

_____

APPENDIX D

TAHOMA COMPANIES, INCORPORATED
P O Box 486, Mile 5 Hwy 14
Cedar City, Utah 84721
(435) 865-0131 ☎ Fax (435) 865-0161
email tahoma@cedarcity net

FIGURE 6

IRON COUNTY CLASS IVB LANDFILL
LOG OF TEST PITS

Date August 2, 1999

Test Pit 1

G L - 18"	Silty sand, tan, dry, loose (SM)
18" - 9'	Gravel, sandy, tan to light brown, slightly silty, loose, dry, gravel and cobbles to 8" in diameter (GW) Easily excavated to 8' 6", refusal on weathered volcanic rocks at 9' below ground level

Test Pit 2

G L - 1'	Silty sana, tan, dry, loose (SM)
1' - 12'	Gravel, sandy, tan to light brown, slightly silty, loose, dry, gravel and cobbles to 12" in diameter (GW) Easily excavated to 12'

Test Pit 3

G L - 1'	Silty sand, tan, dry, loose to slightly cemented with caliche (SM)
1' - 13 5'	Gravel, sandy, tan to light brown, clean sandy matrix, loose, dry, gravel and cobbles to 18" in diameter (GW) Trace caliche coatings to 3' Easily excavated to 13 5' Bulk sample at 11' below ground

Test Pit 4

G L - 6'	Sand, silty, gravelly, loose, dry, tan (SM) Trace caliche from 2' to 3' below ground level Alluvial soils
6' - 8'	Weathered andesite bedrock Gravel, with light tan clay, sand, and residual fragments of reddish-brown andesite bedrock (GM) Refusal at 8' below ground level on andesite bedrock

Test Pit 5

G L - 1'	Silty sand, tan, dry, loose (SM)
1' - 6'	Gravel, sandy, tan to light brown, slightly silty, loose, dry, gravel and cobbles to 12" in diameter (GW) Easily excavated to 6'
6' - 9'	Weathered andesite bedrock Gravel, with light tan clay, sand, and residual fragments of reddish-brown andesite bedrock (GM) Refusal at 9' below ground level on andesite bedrock

Test Pit 6

G L - 1'	Silty sand, tan, dry, loose (SM)
1' - 7'	Gravel, sandy, tan to light brown, clean sandy matrix, loose, dry, gravel and cobbles to 18" in diameter (GW) Trace caliche coatings to 3'
7' - 10' 8"	Weathered andesite bedrock Gravel, with light tan clay, sand, and residual fragments of reddish-brown andesite bedrock (GM) Easily excavated to 10' Refusal at 10' 8" below ground level on andesite bedrock

Notes G L = Ground Level, SM = silty sand, GW = well graded gravel, GM = silty gravel, Andesite = a fine grained volcanic rock containing large crystals (phenocrysts) of transparent plagioclase feldspar Refusal = inability to excavate bedrock with a Case 580 or equivalent backhoe, Caliche = naturally occuring, white, calcium carbonate cement

The locations of the test pits are shown on Figure 5

APPENDIX E

IRON COUNTY CLASS IVb LANDFILL CLOSURE PROCESS

1. Engineer final cover closure package
2. Place waste to final cover contours
3. Place additional fill soil to cover all waste and provide stable surface for final cover soil placement
4. Place final cover grade stakes
5. Place final cover soils
6. Revegetate
7. File final report with DEQ

CLOSURE COST ESTIMATE (West 1/2 Phase B)			acrea		3.0	
Item #1 - Engineering Package (Initial)			LS	$	7,500	
Provide engineering plans, specifications, QA/QC plan and provide coordination with DEQ staff and final engineering report. Subsequent engineering packages will utilize initial engineering package as template.						
Item #2 - Place additional soil (1' in depth) to cover waste and provide base for final cover.*						
Haul soil	4,840	$	2.21		10,688	
Place soil	4,840	$	2.93		14,197	
Item #3 - Place final cover soils (2' in depth)						
Haul soil	9,680	$	2.21		21,377	
Place soil	9,680	$	2.93		28,395	
Item #4 - Revegetate						
Seed, tackifier, mulch	3.0	$	2,000	$	6,000	
Wattles	3.0	$	200	$	600	
		Subtotal		$	88,757	
		10% contingency		$	8,876	
		Final Closure Cost		$	97,633	

ASSUMPTIONS:

1 - One loader to load dump truck	Hourly Rate	$	140	
2 - One 10-wheel dump truck to haul soil	Hourly Rate	$	125	
3 - One loader to move soil from top of slope	Hourly Rate	$	140	
4 - One dozer to grade slope	Hourly Rate	$	180	
5 - One water truck	Hourly Rate	$	120	
6 - Hauling production is 120 yd^3/hour		$	2.21	per cubic yard to haul soil
7 - Soil placement on slope is 150 yd^3/hour		$	2.93	per cubic yard to place soil
8 - Final cover grading 2 hours for each 100'x90' area		$	1,355	per acre for final grading
9 - Revegetation and erosion control		$	2,000	per acre
(each cell (100'x90') and takes 200' of wattles)	wattles are $1/ft			per acre

APPROXIMATE COST PER ACRE	$	32,544

IRON COUNTY CLASS IVb LANDFILL CLOSURE PROCESS

1. Engineer final cover closure package
2. Place waste to final cover contours
3. Place additional fill soil to cover all waste and provide stable surface for final cover soil placement
4. Place final cover grade stakes
5. Place final cover soils
6. Revegetate
7. File final report with DEQ

CLOSURE COST ESTIMATE (East 1/2 Phase B)				acrea		3.0	
Item #1 - Engineering Package (Initial)				LS	$	7,500	
Provide engineering plans, specifications, QA/QC plan and provide coordination with DEQ staff and final engineering report. Subsequent engineering packages will utilize initial engineering package as template.							
Item #2 - Place additional soil (1' in depth) to cover waste and provide base for final cover.*							
Haul soil	4,840	$	2.21			10,688	
Place soil	4,840	$	2.93			14,197	
Item #3 - Place final cover soils (2' in depth)							
Haul soil	9,680	$	2.21			21,377	
Place soil	9,680	$	2.93			28,395	
Item #4 - Revegetate							
Seed, tackifier, mulch	3.0	$	2,000		$	6,000	
Wattles	3.0	$	200		$	600	
			Subtotal		$	88,757	
			10% contingency		$	8,876	
			Final Closure Cost		$	97,633	

ASSUMPTIONS:

1 - One loader to load dump truck	Hourly Rate	$ 140	
2 - One 10-wheel dump truck to haul soil	Hourly Rate	$ 125	
3 - One loader to move soil from top of slope	Hourly Rate	$ 140	
4 - One dozer to grade slope	Hourly Rate	$ 180	
5 - One water truck	Hourly Rate	$ 120	
6 - Hauling production is 120 yd^3/hour		$ 2.21	per cubic yard to haul soil
7 - Soil placement on slope is 150 yd^3/hour		$ 2.93	per cubic yard to place soil
8 - Final cover grading 2 hours for each 100'x90' area		$ 1,355	per acre for final grading
9 - Revegetation and erosion control		$ 2,000	per acre
(each cell (100'x90') and takes 200' of wattles)	wattles are $1/ft		per acre

APPROXIMATE COST PER ACRE $ 32,544

LANDFILL POST-CLOSURE COSTS (30 YEARS)

Section 1.0 - Engineering

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
1.1	**Post-Closure Plan**	NA			$0
1.2	**Annual Report** (including results from gas, leachate, and ground water sampling - details of maintenance performed)	LS	$300	30	$9,000
a	Semiannual Site Inspections	LS	$200	60	$12,000
b	Plan Update	LS	$0	0	$0
				Engineering Subtotal	$21,000

Section 2.0 - Gas Collection System - Sampling

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
2.1	**Sample Collection**	LS	$0	0	$0
2.2	**Sample Analysis**	NA	$0	0	$0
2.3	**Report** (Part of Annual Report)				
				Gas Collection System - Sampling Subtotal	$0

Section 3.0 - Leachate Collection System - Sampling

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
2.1	**Sample Collection**	LS	$0	0	$0
2.2	**Sample Analysis**	NA	$0	0	$0
2.3	**Report** (Part of Annual Report)				
				Leachate Collection System - Sampling Subtotal	$0

Section 4.0 - Ground Water Monitoring System - Sampling

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
3.1	**Sample Collection**	LS	$0	0	$0
3.2	**Sample Analysis**	LS	$0	0	$0
3.3	**Report** (Part of Annual Report)				
				Ground Water Collection System - Sampling Subtotal	$0

Section 5.0 - Facility Operations and Maintenance

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
4.1	**Cover**				
a	Soil Replacement	LS	$1,000	6	$6,000
b	Vegetation/Reseeding	LS	$500	6	$3,000
4.2	**Storm Water Protection Structures**				
a	Ditch and Culvert Maintenance	LS	$0	0	$0
b	Berm and Basin Maintenance	LS	$0	0	$0
4.3	**Gas Collection System**				
a	System Operation	NA	$0	0	$0
b	System Repair	LS	$0	0	$0
4.4	**Leachate Collection System**				
a	System Operation	NA	$0	0	$0
b	System Repair	NA	$0	0	$0
4.5	**Ground Water Monitoring System**				
a	System Operation	NA	$0	0	$0
b	System Repair	LS	$0	0	$0
4.6	**Site Security**				
a	Lighting, signs, etc…	LS	$0	0	$0
b	Fencing and Gates	LS	$1,000	6	$6,000
4.7	**Miscellaneous**				
a					
b					
				Facility Operations and Maintenance Subtotal	$15,000

Total	$36,000
10% Contingency	$3,600
Total Post-Closure Cost	$39,600