State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL
Ty L. Howard
Director

April 5, 2021

Bruce Anderson, Solid Waste Supervisor
Iron County
P.O. Box 743
Cedar City, UT 84720

RE: Renewed Permit to Operate – Iron County Parowan Construction and Demolition (CD) Landfill SW115

Dear Mr. Anderson:

Enclosed is the approved permit, which has been renewed for the Iron County Parowan Class IVb CD Landfill. The 30-day public comment period on the draft permit began on February 2, 2021 and ended on March 3, 2021. No comments were received.

Periodic inspections of the landfill will be conducted by representatives of the Division of Waste Management and Radiation Control and the Southwest Utah Public Health Department to assess compliance with permit conditions and applicable Solid Waste Rules.

The permit approval and expiration dates are as shown on the permit cover page. A Statement of Basis was prepared for the permit and is enclosed.

If you have any questions, please call Doug Taylor at 801-536-0240.

Sincerely,

Ty L. Howard, Director
Division of Waste Management and Radiation Control

(Over)

DSHW-2021-003430

195 North 1950 West • Salt Lake City, UT
Mailing Address: P.O. Box 144880 • Salt Lake City, UT 84114-4880
Telephone (801) 536-0200 • Fax (801) 536-0222 • T.D.D. (801) 536-4284
www.deq.utah.gov

TLH/DT/wa

Enclosures: Permit (DSHW-2020-016902)
Permit Attachment 1 – Landfill Design and Construction (DSHW-2020-016904)
Permit Attachment 2 – Operations Plan (DSHW-2020-016906
Permit Attachment 3- Waste Inspections (DSHW-2020-016908)
Permit Attachment 4 – Closure and Post-Closure (DSHW-2020-016910)
Statement of Basis (DSHW-2021-003428)

c: Jeremy Roberts, Environmental Health Director, Southwest Utah Health Department
Paul Wright, P.E., UDEQ District Engineer
Marilyn Woods, Iron County Commissioner (Email)
David C. Matheson, Parowan City Manager (Email)
Brett Mickelson, P.E., IGES (Email)

DIVISION OF WASTE MANAGEMENT AND RADIATION CONTROL SOLID WASTE LANDFILL PERMIT

CLASS IVb SOLID WASTE PERMIT *RENEWAL*

Parowan Class IVb LANDFILL

Pursuant to the provisions of the *Utah Solid and Hazardous Waste Act*, Title 19, Chapter 6, Part 1, Utah Code Annotated (Utah Code Ann.) (the Act) and the *Utah Solid Waste Permitting and Management Rules*, Utah Administrative Code R315-301 through 320 adopted thereunder, a Permit is issued to

Parowan City as owner and
Iron County as operator
Permittees,

to own, construct, and operate the Parowan Class IVb landfill located in Section 22, Township 34 South, Range 9 West, Salt Lake Base and Meridian, Iron County, Utah as shown in the Permit Renewal Application that was determined complete on December 8, 2020 (DSHW-2020-16912).

The Permittees are subject to the requirements of R315-301 through 320 of the Utah Administrative Code and the requirements set forth herein.

All references to R315-301 through 320 of the Utah Administrative Code are to regulations that are in effect on the date that this Permit becomes effective.

This Permit shall become effective April 5, 2021.

This Permit shall expire at midnight April 4, 2031.

Closure Cost Revision Date: April 5, 2026.

Signed this 5th day of April, 2021.

Ty L. Howard, Director
Division of Waste Management and Radiation Control

FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME:	Iron County Parowan Class IVb Landfill
OWNER NAME:	Parowan City
OWNER ADDRESS:	35 East 100 North P.O. Box 576 Parowan, Utah 84761
OWNER PHONE NO.:	435-477-3331
OPERATOR NAME:	Iron County
OPERATOR ADDRESS:	P.O. Box 743 Cedar City, Utah 84720
OPERATOR PHONE NO.:	435-865-7015
TYPE OF PERMIT:	Class IVb Landfill
PERMIT NUMBER:	9904R3
LOCATION:	Landfill site is located in Township 34 South, Range 7 West, Section 22, SLBM; Iron County, Lat. 37º 49' 43", Long. 112º 51' 9"
PERMIT HISTORY	This facility first received a permit to accept solid waste on December 15, 1999. This is the third renewal of the permit. This renewal permit is effective on the date shown on the signature page.

The term, “Permit,” as used in this document is defined in R315-301-2(55) of the Utah Administrative Code. “Director” as used throughout this Permit refers to the Director of the Division of Waste Management and Radiation Control.

This Permit consists of the signature page, Facility Owner/Operator Information section, Sections I through V, and all Attachments to this Permit.

The facility as described in this Permit consists of a scale house, a Class IV disposal cell, drop-off containers for MSW waste and recyclable materials, a green waste pile and landfill equipment to manage compaction and covering of waste.

Compliance with this Permit does not constitute a defense to actions brought under any other local, state, or federal laws. This Permit does not exempt the Permittees from obtaining any other local, state or federal permits or approvals required for the operation of the landfill.

The issuance of this Permit does not convey any property rights, other than the rights inherent in this Permit, in either real or personal property, or any exclusive privileges other than those inherent in this Permit. This Permit does not authorize any injury to private property or any invasion of personal rights, or any infringement of federal, state or local laws or regulations, including zoning ordinances.

The provisions of this Permit are severable. If any provision of this Permit is held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this Permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

By this Permit, the Permittees are subject to the following conditions.

PERMIT REQUIREMENTS

I. GENERAL COMPLIANCE RESPONSIBILITIES

I.A. General Operation

I.A.1. The Permittees shall operate the landfill in accordance with all applicable requirements of R315-304 of the Utah Administrative Code that are in effect as of the date of this Permit unless otherwise noted in this Permit. Any permit noncompliance or noncompliance with any applicable portions of Utah Code Ann § 19-6-101 through 125 and applicable portions of R315-301 through 320 of the Utah Administrative Code constitutes a violation of the Permit or applicable statute or rule and is grounds for appropriate enforcement action, permit revocation, modification, termination, or denial of a permit renewal application.

I.B. Acceptable Waste

I.B.1. Construction/demolition solid waste as defined in R315-301-2(17) of the Utah Administrative Code;

I.B.2. Yard waste as defined in R315-301-2(87) of the Utah Administrative Code;

I.B.3. Inert waste, as defined in R315-301-2(37) of the Utah Administrative Code;

I.B.4. Waste tires, may be accepted and managed in accordance with the requirements of R315-320 of the Utah Administrative Code; and

I.B.5. Petroleum contaminated soils as allowed in R315-315-8(3) of the Utah Administrative Code.

I.C. Prohibited Waste

I.C.1. Hazardous waste as defined by R315-261 of the Utah Administrative Code;

I.C.2. PCBs as defined by R315-301-2(53) of the Utah Administrative Code, except PCB's specified by R315-315-7(2)(a) and (c) of the Utah Administrative Code;

I.C.3. Household waste, except waste resulting from the abatement, rehabilitation, renovation and remodeling of homes and other residences;

I.C.4. Municipal waste;

I.C.5. Special waste except as specified in this Permit;

I.C.6. Regulated asbestos-containing material;

I.C.7. Industrial solid waste as defined in R315-301-2(35) of the Utah Administrative Code;

I.C.8. Commercial solid waste as defined in R315-301-2(14) of the Utah Administrative Code;

I.C.9. Containers larger than household size (five gallons) holding any liquid, non-containerized material containing free liquids or any waste containing free liquids in containers larger than five gallons;

I.C.10. Dead animals.

I.C.11. Any prohibited waste received and accepted for disposal at the facility shall constitute a violation of this Permit, of 19-6-101 through 125 and of R315-301 through 320 of the Utah Administrative Code.

I.D. Inspections and Inspection Access

I.D.1. The Permittees shall allow the Director of the Division of Waste Management and Radiation Control or an authorized representative, or representatives from the Southwest Utah Health Department, to enter at reasonable times and:

I.D.1.a Inspect the landfill or other premises, practices or operations regulated or required under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;

I.D.1.b Have access to and copy any records required to be kept under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;

I.D.1.c Inspect any loads of waste, treatment facilities or processes, pollution management facilities or processes, or control facilities or processes required under this Permit or regulated under R315-301 through 320 of the Utah Administrative Code; and

I.D.1.d Create a record of any inspection by photographic, video, electronic, or any other reasonable means.

I.E. Noncompliance

I.E.1. If monitoring, inspection, or testing indicates that any permit condition or any applicable rule under R315-301 through 320 of the Utah Administrative Code may be or is being violated, the Permittees shall promptly make corrections to the operation or other activities to bring the facility into compliance with all permit conditions or rules.

I.E.2. In the event of noncompliance with any permit condition or violation of an applicable rule, the Permittees shall promptly take any action reasonably necessary to correct the noncompliance or violation and mitigate any risk to the human health or the environment. Actions may include eliminating the activity causing the noncompliance or violation and containment of any waste or contamination using barriers or access restrictions, placing of warning signs or permanently closing areas of the facility.

I.E.3. The Permittees shall:

I.E.3.a Document the noncompliance or violation in the daily operating record, including the day the event occurred or the day it was discovered;

I.E.3.b Notify the Director of the Utah Division of Waste Management and Radiation Control by telephone within 24 hours, or the next business day following documentation of the event; and

I.E.3.c Give written notice of the noncompliance or violation and measures taken to protect human health and the environment within seven days after Director notification.

I.E.4. Within thirty days after the documentation of the event, the Permittees shall submit to the Director a written report describing the nature and extent of the noncompliance or violation and the remedial measures taken or to be taken to protect human health and the environment and to eliminate the noncompliance or violation. After review of the assessment report, the Director may order the Permittees to perform appropriate remedial measures including development of a site remediation plan for approval by the Director.

I.E.5. In an enforcement action, the Permittees may not claim as a defense that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with R315-301 through 320 of the Utah Administrative Code and this Permit.

I.F. Revocation

I.F.1. This Permit may be revoked if the Permittees fails to comply with any condition of the Permit. The Director will notify the Permittees in writing prior to any proposed revocation and such action shall be subject to all applicable hearing procedures established under R305-7 of the Utah Administrative Code and the Utah Administrative Procedures Act.

I.G. Attachment Incorporation

I.G.1. Attachments to the Permit are incorporated by reference into this Permit and are enforceable conditions of this Permit, as are documents incorporated by reference into the attachments. Language in this Permit supersedes any conflicting language in the attachments or documents incorporated into the attachments.

II. DESIGN AND CONSTRUCTION

II.A. Design and Construction

II.A.1. The landfill shall be constructed according to the design outlined in the Attachment # 1 and in the area designated in the Attachment # 1, including landfill cells, fences, gates, and berms prior to acceptance of waste.

II.A.2. The Permittees shall notify the Director upon completion of construction of any landfill cells or run-on and run-off diversion systems. No landfill cells or run-on and run-off diversion system may be used until construction is approved by the Director.

II.A.3. The Permittees shall notify the Director of the completion of construction of any final cover system and shall provide all necessary documentation and shall apply for approval of the construction from the Director.

II.A.4. If ground water is encountered during excavation of the landfill, the Director shall be notified immediately, and a contingency plan implemented or alternative construction design developed and submitted for approval.

II.A.5. All engineering drawings submitted to the Director shall be stamped by a professional engineer with a current registration in Utah.

II.B. Run-On and Run-off Control

II.B.1. The Permittees shall construct drainage channels and diversions as specified in the Attachment # 1 and shall maintain them at all times to effectively prevent runoff from the surrounding area from entering the landfill.

III. LANDFILL OPERATION

III.A. Operations Plan

III.A.1. The Permittees shall keep the Operations Plan included in Attachment # 2 on site at the landfill or at the location designated in section III.H of this Permit. The Permittees shall operate the landfill in accordance with the operations plan. If necessary, the Permittees may modify the Operations Plan following the procedures of R315-311-2(1) of the Utah Administrative Code and approved of by the Director. The Permittees shall note any modification to the Operations Plan in the daily operating record.

III.B. Security

III.B.1. The Permittees shall operate the Landfill so that unauthorized entry to the facility is restricted. The Permittees shall:

III.B.1.a Lock all facility gates and other access routes during the time the landfill is closed.

III.B.1.b Have at least *one* person employed by the Permittees at the landfill during all hours that the landfill is open.

III.B.1.c Construct all fencing and any other access controls as shown in the Attachment # 1 to prevent access by persons or livestock by other routes.

III.C. Training

III.C.1. The Permittees shall provide training for on-site personnel in landfill operation, including waste load inspection, hazardous waste identification, and personal safety and protection.

III.D. Burning of Waste

III.D.1. Intentional burning of solid waste is prohibited and is a violation of R315-303-4(2)(b) of the Utah Administrative Code.

III.D.2. The Permittees shall extinguish all accidental fires as soon as reasonably possible.

III.E. Cover

III.E.1. The Permittees shall cover the waste as necessary to prevent fires and to control vectors, blowing litter, odor, scavenging, and fugitive dust.

III.E.2. The Permittees may use an alternative cover material when the material and operation meets the requirements of R315-303-4(4)(b) through (e) of the Utah Administrative Code.

III.E.3. The Permittees shall use a minimum of six inches of earthen cover no less than once each month for all wastes received at the landfill. This cover shall consist of soil; no alternative may be used.

III.E.4. The Permittees shall record in the daily operating record and the operator shall certify, at the end of each day of operation when soil or an alternative cover is placed, the amount and type of cover placed and the area receiving cover.

III.F. Waste Inspections

III.F.1. The Permittee/s shall visually inspect incoming waste loads to verify that no wastes other than those allowed by this permit are disposed in the landfill. The Permittees shall conduct a complete waste inspection at a minimum frequency of 1 % of incoming loads, but no less than one complete inspection per day. The Permittees shall select the loads to be inspected on a random basis.

III.F.2. The Permittees shall inspect all loads suspected or known to have one or more containers capable of holding more than five gallons of liquid to ensure that each container is empty.

III.F.3. The Permittees shall inspect all loads that the Permittees suspects may contain a waste not allowed for disposal at the landfill.

III.F.4. The Permittees shall conduct complete random inspections as follows:

III.F.4.a The Permittees shall conduct the random waste inspection at the working face or an area designated by the Permittees.

III.F.4.b The Permittees shall direct that loads subjected to complete inspection be unloaded at the designated area;

III.F.4.c Loads shall be spread by equipment or by hand tools;

III.F.4.d Personnel trained in hazardous waste recognition and recognition of other unacceptable waste shall conduct a visual inspection of the waste; and

III.F.4.e The personnel conducting the inspection shall record the results of the inspection on a waste inspection form as found in Attachment # 3. The Permittees shall place the form in the daily operating record at the end of the operating day.

III.F.4.f The Permittees or the waste transporter shall properly dispose of any waste that is not acceptable at the facility at an approved disposal of that type of waste.

III.G. Self Inspections

III.G.1. The Permittees shall inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of wastes or contaminated materials to the environment or create a threat to human health or the environment. The Permittees shall complete these general inspections no less than quarterly and shall cover the following areas: Waste placement, compaction, adequate cover, fences and access controls, roads, run-on/run-off controls, final and intermediate cover, litter controls, and records. The Permittees shall record the inspections in the daily operating record on the day of the inspection. The Permittee shall correct the problems identified in the inspections in a timely manner and document the corrective actions in the daily operating record.

III.H. Recordkeeping

III.H.1. The Permittees shall maintain and keep on file at 3127 North Iron Spring Road, Cedar City, Utah, 84020, a daily operating record and other general records of landfill operation as required by R315-302-2(3) of the Utah Administrative Code. The landfill operator, or other designated personnel, shall date and sign the daily operating record at the end of each operating day. The Daily operating record shall consist of the following two types of documents:

III.H.2. Records related to the daily landfill operation or periodic events including:

III.H.2.a The number of loads of waste and the weights or estimates of weights or volume of waste received each day of operation and recorded at the end of each operating day;

III.H.2.b Major deviations from the approved plan of operation recorded at the end of the operating day the deviation occurred;

III.H.2.c Results of monitoring required by this Permit recorded in the daily operating record on the day of the event or the day the information is received;

III.H.2.d Records of all inspections conducted by the Permittees, results of the inspections, and corrective actions.

III.H.3. Records of a general nature including:

III.H.3.a A copy of this Permit, including the Attachments;

III.H.3.b Results of inspections conducted by representatives of the Director and representatives of the local Health Department, when forwarded to the Permittees;

III.H.3.c Closure and Post-closure care plans; and

III.H.3.d Records of employee training.

III.I. Reporting

III.I.1. The Permittees shall prepare and submit to the Director an Annual Report as required by R315-302-2(4) of the Utah Administrative Code. The Annual Report shall include: the period covered by the report, the annual quantity of waste received, an annual update of the financial assurance mechanism, and all training programs completed.

III.J. Roads

III.J.1. The Permittees shall improve and maintain all access roads within the landfill boundary that are used for transporting waste to the landfill for disposal as necessary to assure safe and reliable all-weather access to the disposal area.

III.K. Litter Control

III.K.1. Litter resulting from operations of the landfill shall be minimized. In addition to the litter control plans found in Attachment # 3, the Permittees shall implement the following procedures when high wind conditions are present:

III.K.1.a Reduce the size of the tipping face;

III.K.1.b Reduce the number of vehicles allowed to discharge at the tipping face at one time;

III.K.1.c Orient vehicles to reduce wind effects on unloading and waste compaction;

III.K.1.d Reconfigure tipping face to reduce wind effect;

III.K.1.e Use portable and permanent wind fencing as needed; and

III.K.1.f Should high winds present a situation that the windblown litter cannot be controlled, the Permittees shall cease operations of the landfill until the winds diminish.

IV. CLOSURE REQUIREMENTS

IV.A. Closure

IV.A.1. The Permittees shall place the final cover of the landfill as shown in the Attachment # 4. The final cover shall meet, at a minimum, the standard design for closure as specified in R315-305-5(5)(b) of the Utah Administrative Code.

IV.B. Title Recording

IV.B.1. The Permittee/s shall meet the requirements of R315-302-2(6) of the Utah Administrative Code by recording a notice with the Iron County Recorder as part of the record of title that the property has been used as a landfill. The notice shall include waste disposal locations and types of waste disposed. The Permittees shall provide the Director the notice after recordation.

IV.C. Post-Closure Care

IV.C.1. The Permittees shall perform post-closure care at the closed landfill in accordance with the Post-Closure Care Plan in Attachment # 4. Post-closure care shall continue until all waste disposal sites at the landfill have stabilized and the finding of R315-302-3(7)(c) of the Utah Administrative Code is made.

IV.D. Financial Assurance

IV.D.1. The Permittees shall keep in effect and active the currently approved financial assurance mechanism or another approved mechanism that meets the requirements of R315-309 of the Utah Administrative Code and is approved by the Director to cover the costs of closure and post-closure care at the landfill. The Permittee/s shall adequately fund and maintain the financial assurance mechanism(s) to provide for the cost of closure and post-closure until termination of financial assurance in accordance with R315-309-11 of the Utah Administrative Code.

IV.E. Financial Assurance Annual Update

IV.E.1. The Permittees shall submit an annual revision of closure and post-closure costs for inflation and financial assurance to the Director as part of the annual report as required by R315-309-2(2) of the Utah Administrative Code. The Permittees shall submit the information as required in R315-309-8 of the Utah Administrative Code and shall meet the qualifications for the "Local Government Financial Test" or "Local Government Guarantee" each year.

IV.F. Closure Cost and Post-Closure Cost Revision

IV.F.1. The Permittees shall submit a complete revision of the closure and post-closure cost estimates by the Closure Cost Revision Date listed on the signature page of this Permit and any time the facility is expanded, any time a new cell is constructed, or any time a cell is expanded.

V. ADMINISTRATIVE REQUIREMENTS

V.A. Permit Modification

V.A.1. Modifications to this Permit may be made upon application by the Permittee/s or by the Director following the procedures specified in R315-311-2 of the Utah Administrative Code. The Permittees shall be given written notice of any permit modification initiated by the Director.

V.B. Permit Transfer

V.B.1. This Permit may be transferred to a new Permittee in accordance with R315-310-11 of the Utah Administrative Code.

V.C. Expansion

V.C.1. This Permit is for the operation of a Class IVb Landfill according to the design and Operation Plan described and explained in Attachment # 2. Any expansion of the current footprint designated in the description contained in Attachment # 1, but within the property boundaries designated in Attachment # 1, shall require submittal of plans and specifications to the Director. The plans and specifications shall be approved by the Director prior to construction.

V.C.2. Any expansion of the landfill facility beyond the property boundaries designated in the description contained in Attachment # 1 shall require submittal of a new permit application in accordance with R315-310 of the Utah Administrative Code.

V.C.3. Any addition to the acceptable wastes described in Section I.B shall require a permit modification in accordance with R315-311 of the Utah Administrative Code.

V.D. Expiration

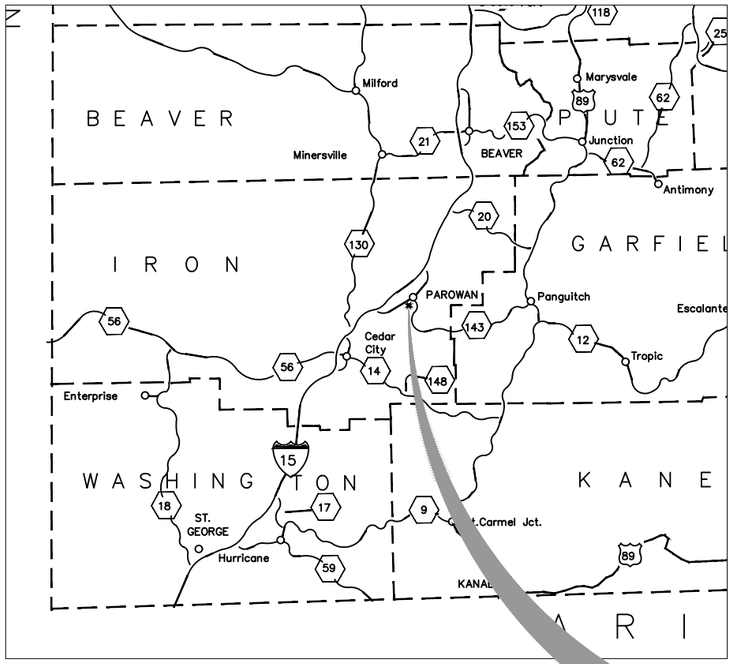
V.D.1. If the Permittee desires to continue operating this landfill after the expiration date of this Permit, the Permittee shall submit an application for permit renewal at least six months prior to the expiration date, as shown on the signature (cover) page of this Permit. If the Permittee submits a timely permit renewal application and the permit renewal is not complete by the expiration date, this Permit shall continue in force until renewal is completed or denied.

ATTACHMENTS

Attachment 1 – Landfill Design and Construction
Attachment 2 – Operations Plan
Attachment 3 – Waste Inspections
Attachment 4 – Closure and Post-Closure

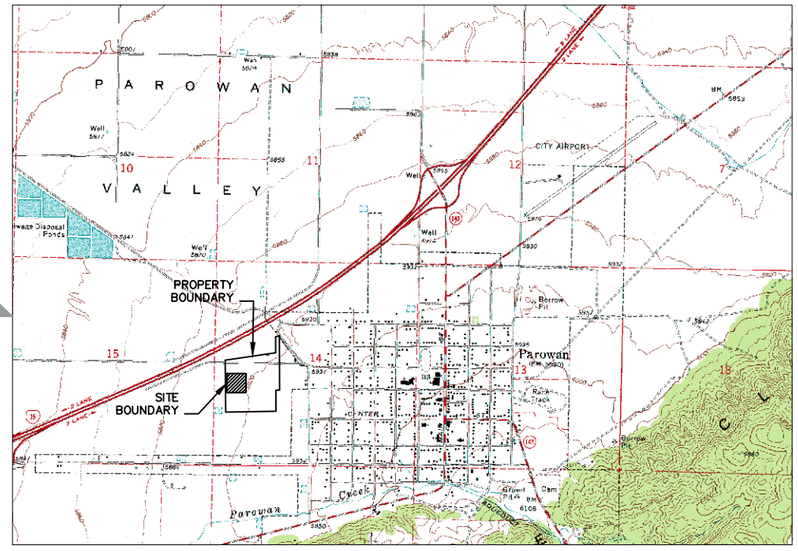
Attachment 1 – Landfill Design and Construction

IRON COUNTY
PAROWAN CLASS IVb LANDFILL
2020 PERMIT RENEWAL



LOCATION MAP
(NOT TO SCALE)

VICINITY MAP



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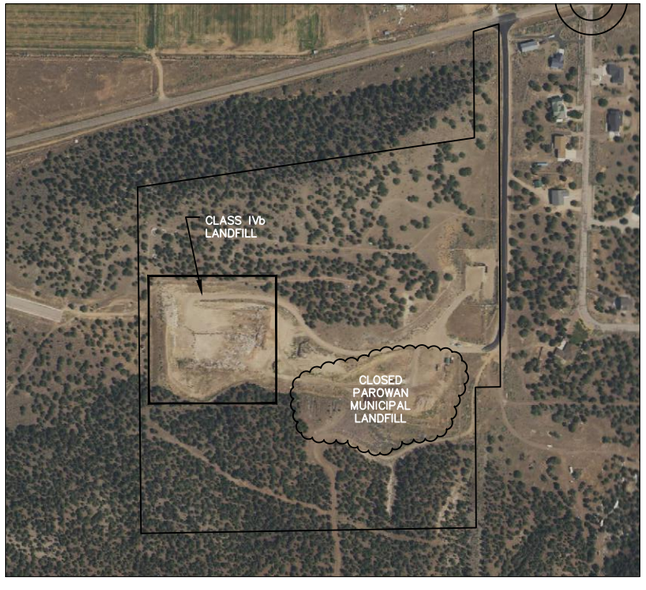
SCALE IN FEET

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

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 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)

IRON COUNTY SOLID WASTE
3127 N IRON SPRINGS ROAD
CEDAR CITY, UT 84720
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MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

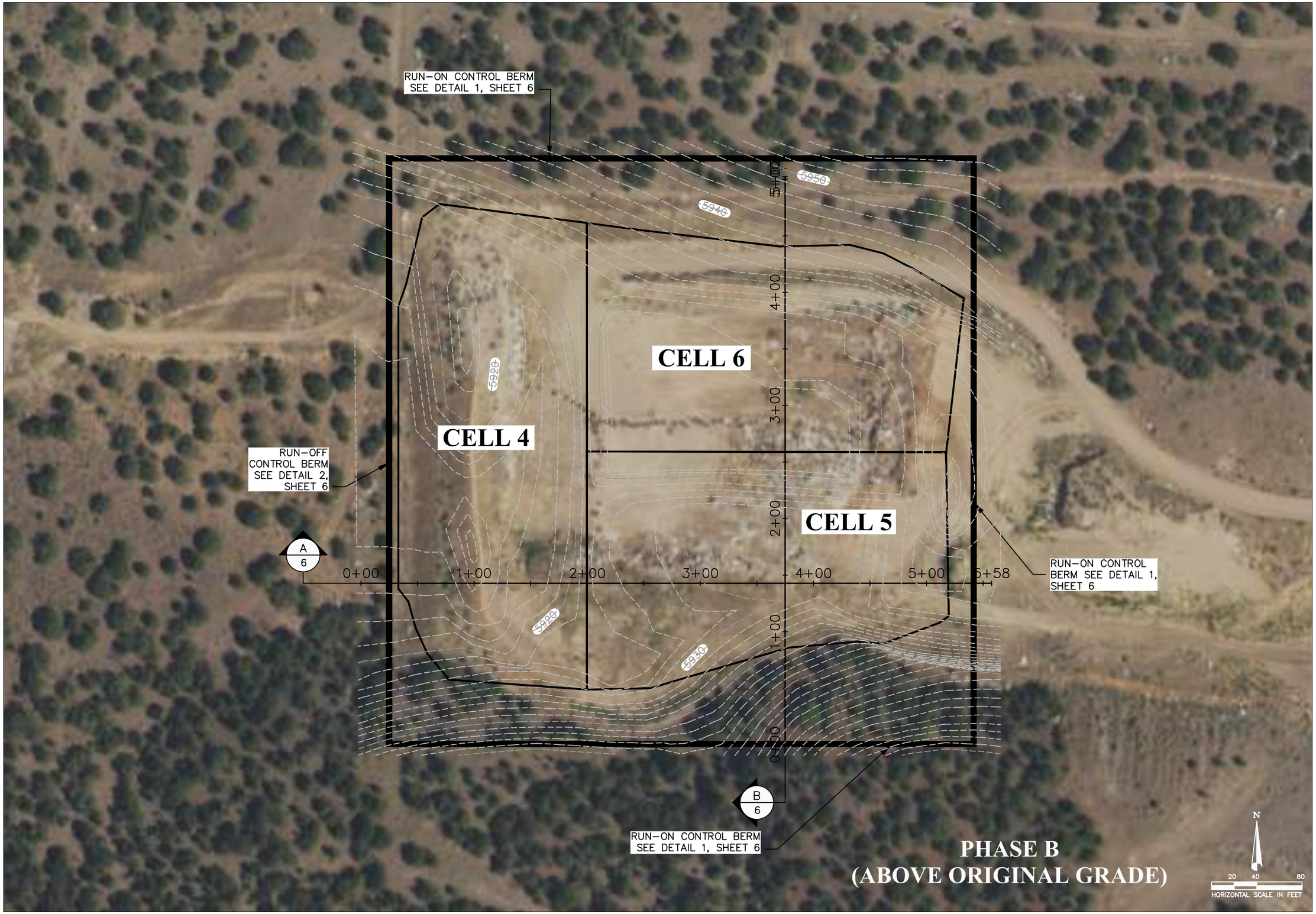
ISSUE:

SHEET TITLE

PAROWAN CLASS IVb

GENERAL ARRANGEMENT

2



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MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

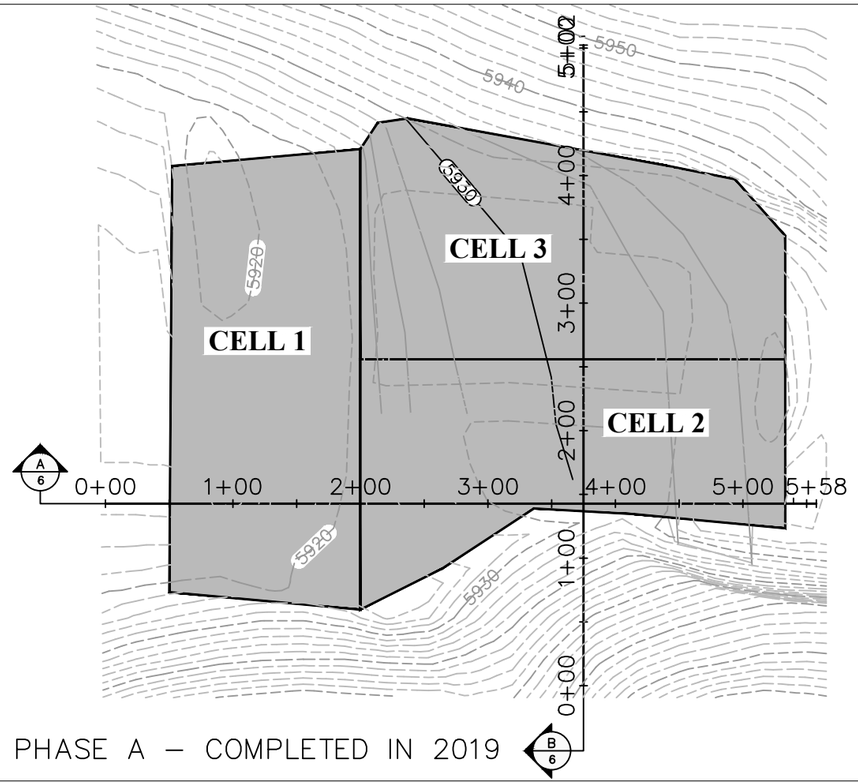
ISSUE:

SHEET TITLE

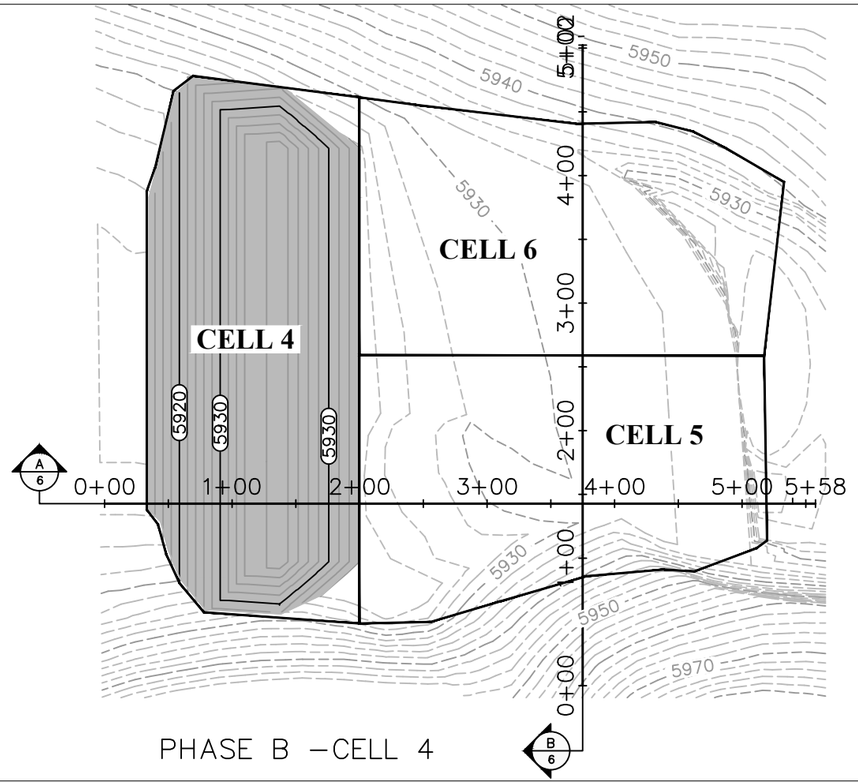
PAROWAN CLASS IVb

LANDFILL PHASING

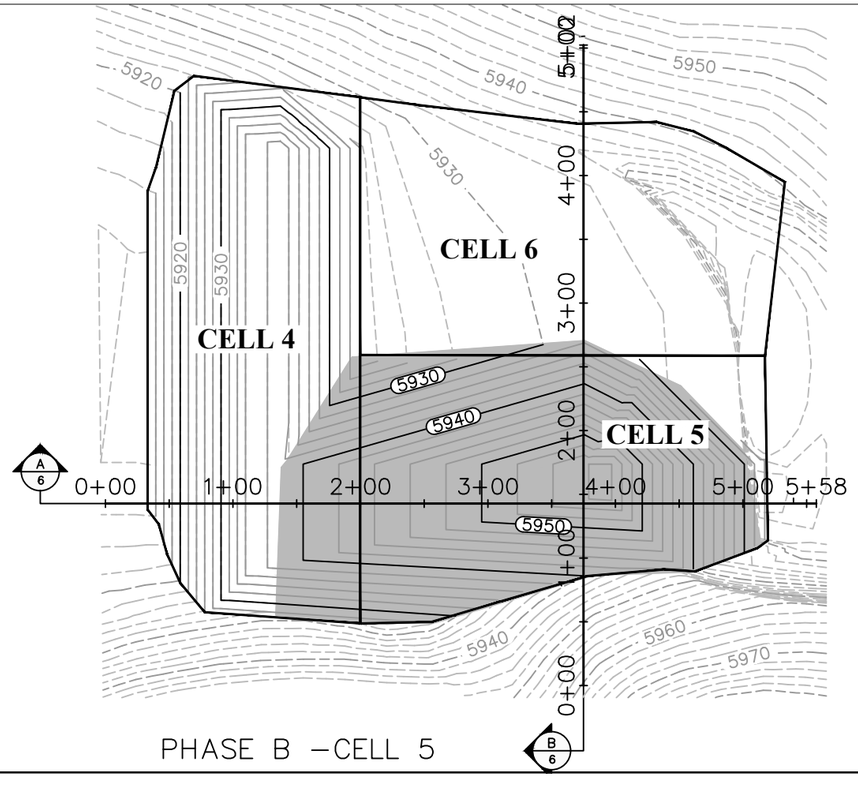
3



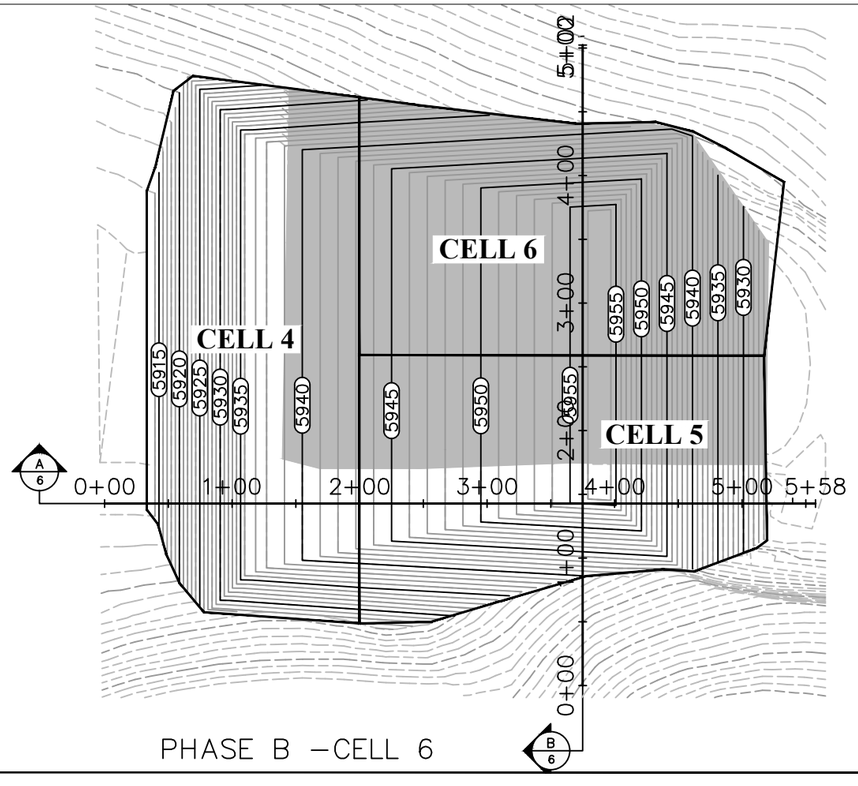
PHASE A – COMPLETED IN 2019



PHASE B –CELL 4



PHASE B –CELL 5



PHASE B –CELL 6

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

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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

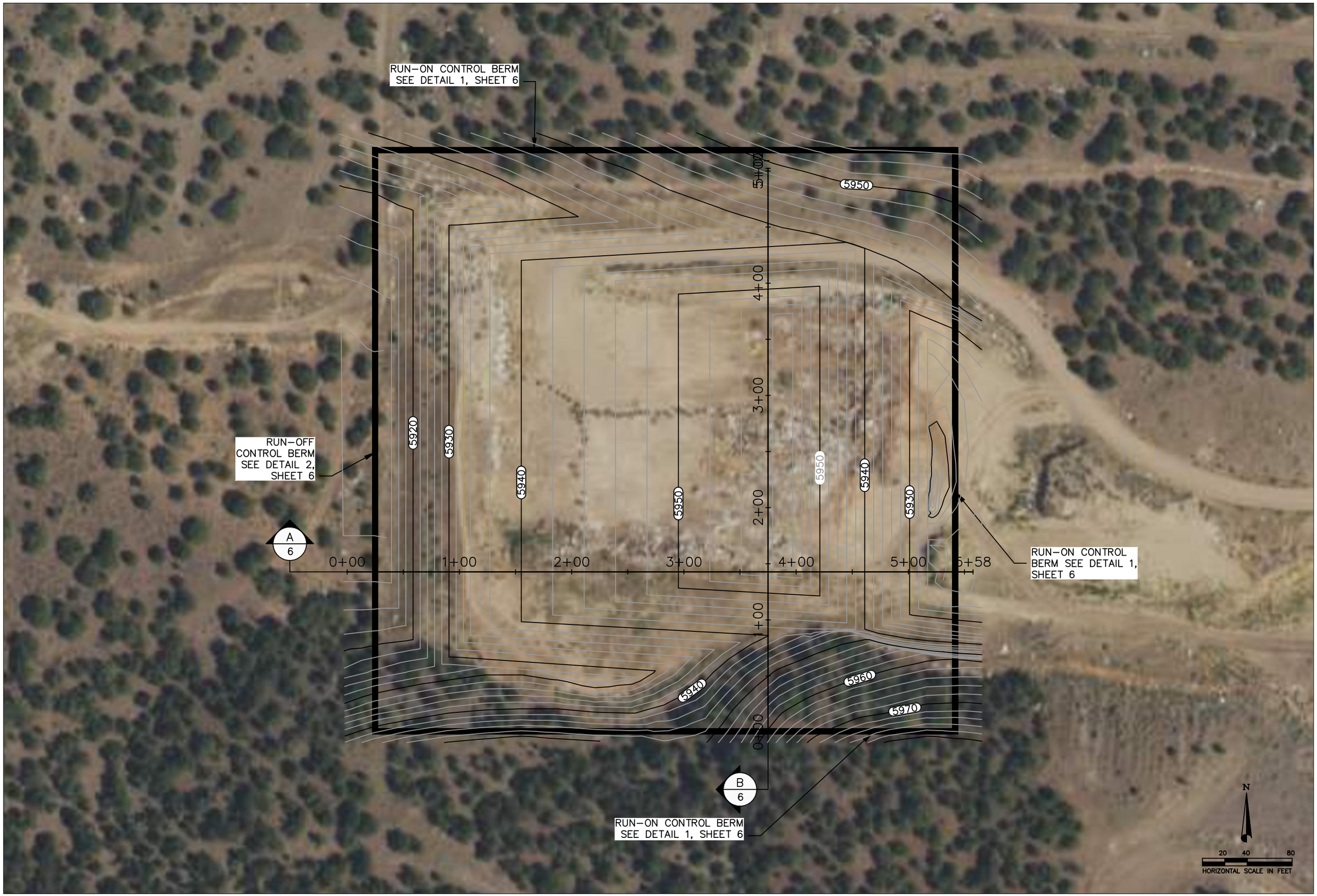
ISSUE:

SHEET TITLE

PAROWAN CLASS IVb

LANDFILL DEVELOPMENT

4



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

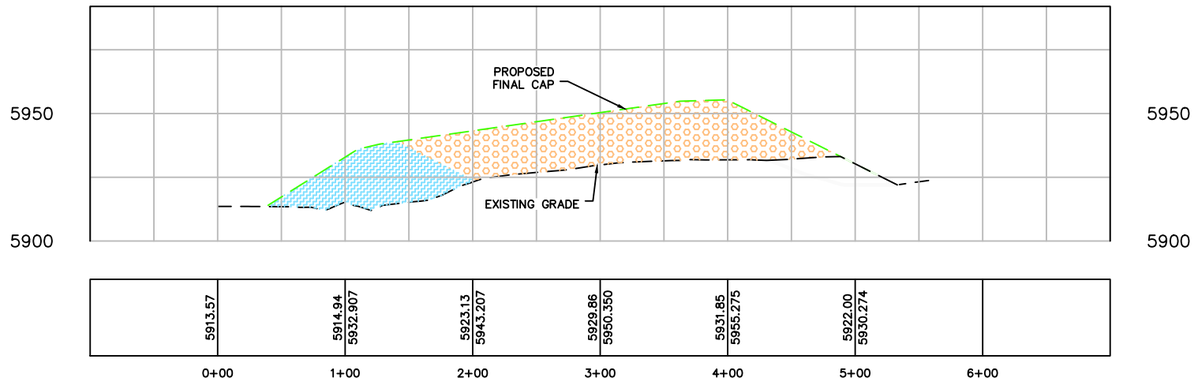
MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

ISSUE:

SHEET TITLE

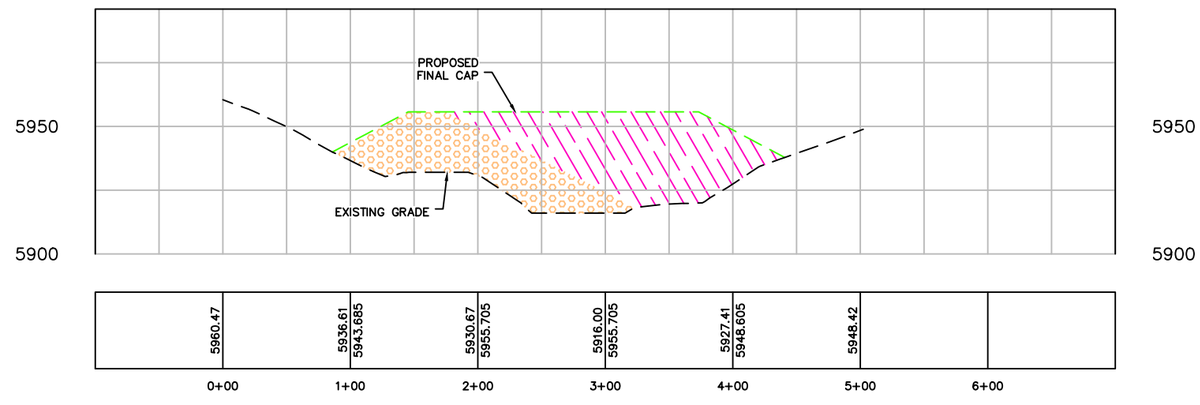
PAROWAN CLASS IVb

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
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CELL 4
CELL 5
CELL 6

MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT RENEWAL

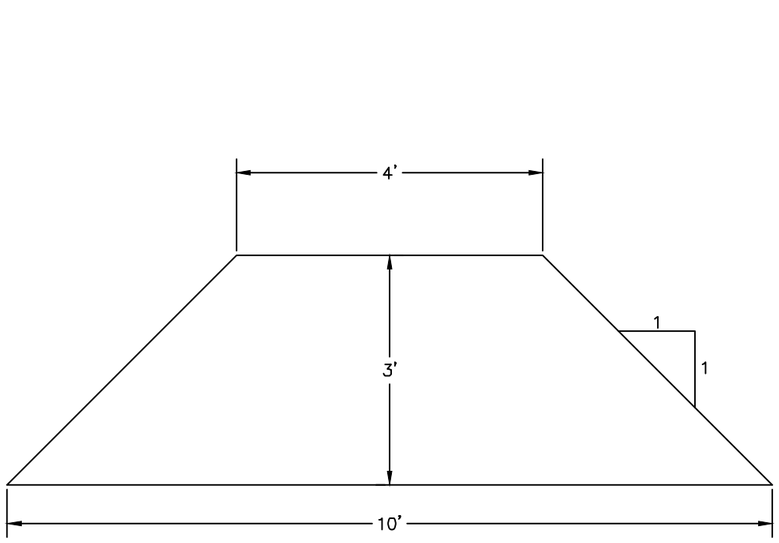
ISSUE:

SHEET TITLE

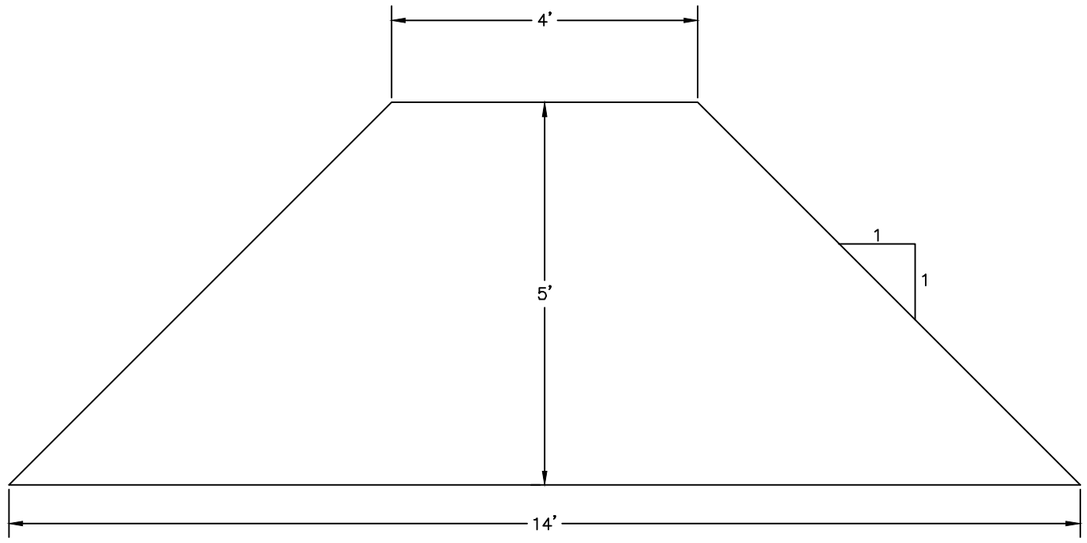
PAROWAN CLASS IVb

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

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MARK	DATE	DESCRIPTION
	8/1/20	2020 PERMIT UPDATE

ISSUE:

SHEET TITLE

PAROWAN CLASS IVb

DETAILS

Attachment 2 – Operations Plan

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

Attachment 3 – Waste Inspections

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: _____

_____

_____

Attachment #4 – Closure and Post-Closure

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 DWMRC Director 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 DWMRC Director.

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.

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

Statement of Basis
for the Iron County Parowan Class IVb Landfill Permit Renewal

1. INTRODUCTION

This Statement of Basis provides the rationale of the Director of the Division of Waste Management and Radiation Control (DWMRC) for issuing the renewal permit for the Iron County Parowan Class IVb Landfill. The Director's staff conducted this evaluation to ensure compliance with the applicable Solid Waste Rules. Doug Taylor wrote this Statement of Basis.

2. FACILITY BACKGROUND

a. Facility Location and History

The facility is located one mile south of Parowan on Old Highway 91, at 1200 West and approximately 600 South, Iron County, Utah as shown in Figure 1.

b. Regulatory History

The Iron County Parowan Class IVb landfill has been permitted since 1994 when it was grandfathered in on top of a historic landfill that had serviced the Parowan community for decades.

3. EVALUATION OF THE PERMIT APPLICATION

a. The renewal permit application (DSHW-2020-014380) for the Facility was received October 5, 2020 at which time the evaluation of the permit application was begun. The DWMRC deemed the permit application to be complete by mid November 2020 and a draft permit for the facility and completeness letter was sent by email to the permit applicant on December 15, 2020. The applicant reviewed the December 15, 2020 document and responded mid-January by telephone to approve the draft permit verbally. The public comment period was begun on February 2, 2021 (DSHW-2021-000684).

4. JUSTIFICATION FOR ISSUING THE PERMIT

a. The Director's staff has evaluated the permit application as required by Section 19-6-108 of the Solid and Hazardous Waste Act and R315-301 through 320 of the Solid and Hazardous Waste Rules.

5. PUBLIC PARTICIPATION

a. As required by Utah Administrative Code R315-311-3, the Director provided an initial 30-day public comment period on the draft permit which began February 2, 2021 and ran through March 3, 2021 (DSHW-2021-000684).

b. No comments were received.

6. CONCLUSION

The Director has determined that the applicant has met all required items in the renewal permit application.

Figure 1
Iron County Parowan Class IVb Landfill Location