Attachment #1

Plans, Specifications, and Calculations

II.c Engineering Report – Plans, Specifications, And Calculations

II.c.1 Unit Design to include cover design; fill methods; and evaluation of final cover R315-310-3(1)(b) and R315-310-4(2)(c)(iii)_

The Bauer Solid Waste Facility is classed as a Class IVa Landfill subject to requirements outlined by Utah Administrative Code 315-305 and is therefore utilized for the disposal of specific categories of waste including C&D waste, inert waste, yard waste, and dead animals. The area permitted to receive this waste includes approximately 97 acres and, as of 2021, waste disposal operations are conducted within the southern portion of the permitted area. Over time, as southern cells reach design elevations and undergo final closure, the disposal area will move northward. For a reference exhibit providing final cover and cell floor elevations as well as a conceptual design of final buildout, please refer to **Appendix I: Figures 1 – 6**.

Following full utilization, a cell undergo closure through the installation of 18 inches of cover soil, covered with a 6 inches thick topsoil layer (using site soils), providing a total final cover thickness of 24 inches. The maximum side slopes of the finished cell shall be 3H:1V and, following the placement and contouring of final cover layers, the topsoil shall be vegetated with a mixture of range grasses indigenous to the area. Following the completion of a particular cell, the next shall begin utilization using a maximum slope of 3H:1V with a top surface proving a minimum grade of 2% in a northwesterly direction. During the course of cell-utilization the commonly used fill method on a day-to-day basis is the "canyon-fill" method, where waste is deposited at either the base or top of a lift (depending on the current landfill topographic conditions) and then pushed or compacted on the working face through the use of landfill equipment.

II.c.2 Design and location of run-on and run-off control systems R315-210-4(2)(c)(viii)

Current run-on and run-off measures include an integrated system of culverts, swales, and natural washes. Although the site is located within an area exhibiting a gradual slope from the east toward a west/southwest direction, run-on is prevented from reaching the site by an adjacent railroad spur. Therefore, an existing 36-inch diameter which had previously serviced site run-on has been put out of service upstream of the Bauer Solid Waste Facility. Run-off measures include the use of swales and natural washes.

Run-on and run-off storm water is controlled during both the open and closed phases of the disposal cells. Drainage swales are used to diverted water around the cells to the existing on-site washes to prevent ponding against the refuse and the working face would be minimized the potential for stormwater to come into contact with the waste. Final cover run-off is routed to the perimeter drainage swales and discharged to the existing washes on the property in such a manner to minimize erosion. Run-off along access roadways is controlled through the use of lowered-profile waterways and retention basins.

II.c.2.A Run-on/Run-off Analysis

For permitting purposes, a drainage analysis was completed for the proposed cell development of the Bauer Solid Waste Facility. The site was divided into six drainage zones, which can be referenced in Appendix F: Figure SW-1.

The quantity of Run-on flow expected from the area above the landfill site was determined by assuming no run-on flow. The precipitation for the 25-year, 24-hour storm event is 2.18 inches (NOAA, Atlas 14, Volume 1) The watershed soil exhibits the properties of hydrologic group "B" (sandy loam) and sagebrush with grass that is in poor condition, with a Runoff Curve Number of 67 given by (BOR, 1977). Details of the input parameters and the model output are included in Appendix F**.**

The peak flow generated from the 25-year 24-hour storm event was determined for each zone by applying the National Resource Conservation Service Technical Release Number 55 (NRSC TR-55) method.

An existing detention basin currently collects all the run-off from the Compost Facility in Zone 2, with the remaining flow being routed through the natural drainages.

II.c.3 Anticipated facility life and the basis for calculating the facility's life
R315-310-4(2)(c)(ii)

The remaining capacity of the Bauer Solid Waste Facility is approximately 2,855,520 tons. Tooele County will have airspace for approximately 43 years of disposal based on available fill volume with expected daily-waste disposal rates and an in-place density of 900 pounds per cubic yard (PCY). Please see Appendix I for calculated facility life projections as well as concomitant facility drawings.

II.c.4 Engineering Reports required to meet location standards
R315-310-4(2)(c)(i)

As this facility represents an existing, non-expanding, permitted area, location standards are not relevant to this application.

II.c.5 Identification of borrow sources for final cover
R315-310-4(2)(c)(iv)

The primary borrow source for short-medium term operations will be a designated area located in a south-central area of the site (Appendix I). However, the majority of the site will be used as a borrow source if needed (refer to Appendix A: Figure 3 for a full exhibit of the borrow area).

II.c.6 Run-off collection, treatment, and disposal and DWQ documentation
R315-310-4(6)(c)(v) & R315-310-3(1)(i)

Run-on and run-off storm water is controlled during both the open and closed phases of all disposal cells. Drainage swales are used to divert water around a cell into existing, on-site, swales in order to prevent ponding against refuse. As an additional measure, the active area of

the working face is minimized in order to further reduce the potential for stormwater to come into contact with disposed waste. Final cover run-off is routed to perimeter drainage swales and subsequently discharged into on-site retention basins in such a manner as to minimize erosion. Run-off along access roads is controlled through the use of lowered-profile waterways.

Due to the type of waste disposed (which is not as conducive to leachate production) within the landfill, as well as the classification of the facility itself, no leachate collection is required. No effluent or outflow from a leachate containment system leaves the site.

II.d Closure Requirement for all Facilities

II.d.1 Facility Closure Plan (R315-310-3(1)(h)

Closure activities shall be implemented as final grading is completed. Tooele County shall notify the Director of the intent to implement the closure plan 60 days prior to the projected date for the final receipt of waste. Implementation of the closure plan, in whole or in part, shall commence no later than 30 days after final receipt of waste or after the final elevation is attained in part of or all of the landfill cell or unit as identified in the approved facility closure plan (unless otherwise specified in the approved closure plan). Closure activities shall be completed within 180 days following their starting time. Extensions of the closure period may be granted by the Director if justification for the extension is documented by the Owner or Operator. Final covers shall be constructed as prescribed in Section II.d.3

Following completion of closure operations for a solid waste management unit or facility, Tooele County shall, within 90 days, submit the following items to the Director: closure plan sheets signed by a professional engineer registered in the State of Utah, and a certification by Tooele County, as well as a professional engineer registered in the state of Utah, that the site or unit has been closed in accordance with the approved closure plan. The certificate will require a final inspection performed by the engineer to determine if the landfill met all the closure requirements as outlined in the permit and closure plans. Inspection will include cell cover design requirements, run-on and run-off controls, and maintenance of proper final grading on the cell to promote effective drainage away from disposed materials, and site access restriction with fencing.

II.d.2 Facility Closure schedule R315-310-4(2)(d)(i)

Based on full utilization volume with projected densities and waste streams (Appendix I: Facility Life Projection Table), the approximate date of full utilization is 2064.

II.d.3 Design of final cover R315-310-4(2)(c)(iii)

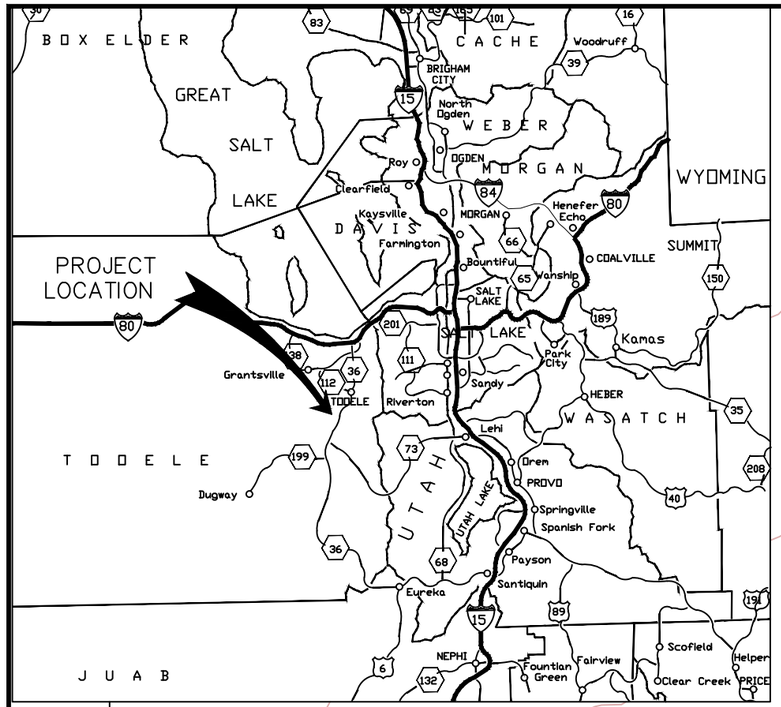
The final cover designed for the Class IV cell is mandated by Utah Administrative Code 315-305 to provide a minimum soil thickness of 2 ft. for final cover, the top 6 in. of which must be topsoil

Attachment #2

Facility Maps

Appendix A – Facility Mapping

1. Figure 1: Vicinity Map
2. Figure 2: Facility Map
3. Figure 3: Topographic Map
4. Figure 4: 7.5 Minute Map



LOCATION MAP

SCALE

750 0 375 750

HORIZ: 1" = 750'

MAPPING SOURCE:
U.S.G.S. QUADRANGLE MAPS

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL RECYCLING AND COMPOST FACILITY

GENERAL PLAN OF OPERATION

VICINITY MAP

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN:	JJS
DRAWN:	JJS
CHECKED:	CAH
DATE:	3/2009

FIGURE:

F.1

BAUER LANDFILL

TOOELE COUNTY, UTAH

LEGEND

- FACILITY FEATURE
- EX SERVICE ROAD
- PROPERTY LINE (APPROXIMATE)

CLASS IV
(PHASE I DISPOSAL AREA)

CAPTURE BASIN

TRANSFER STATION

SCALEHOUSE

COMPOST PAD

BAUER ROAD

CLASS IIIb
(CLOSED)

NO.	DATE	REVISION

FACILITY MAP

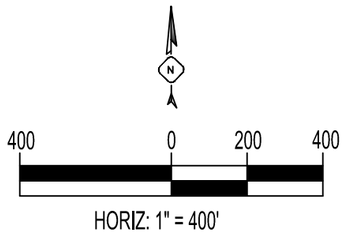
TOOELE BAUER LANDFILL FACILITY
TOOELE, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN:
DRAWN: TL
CHECKED:
DATE: 7/22/2021

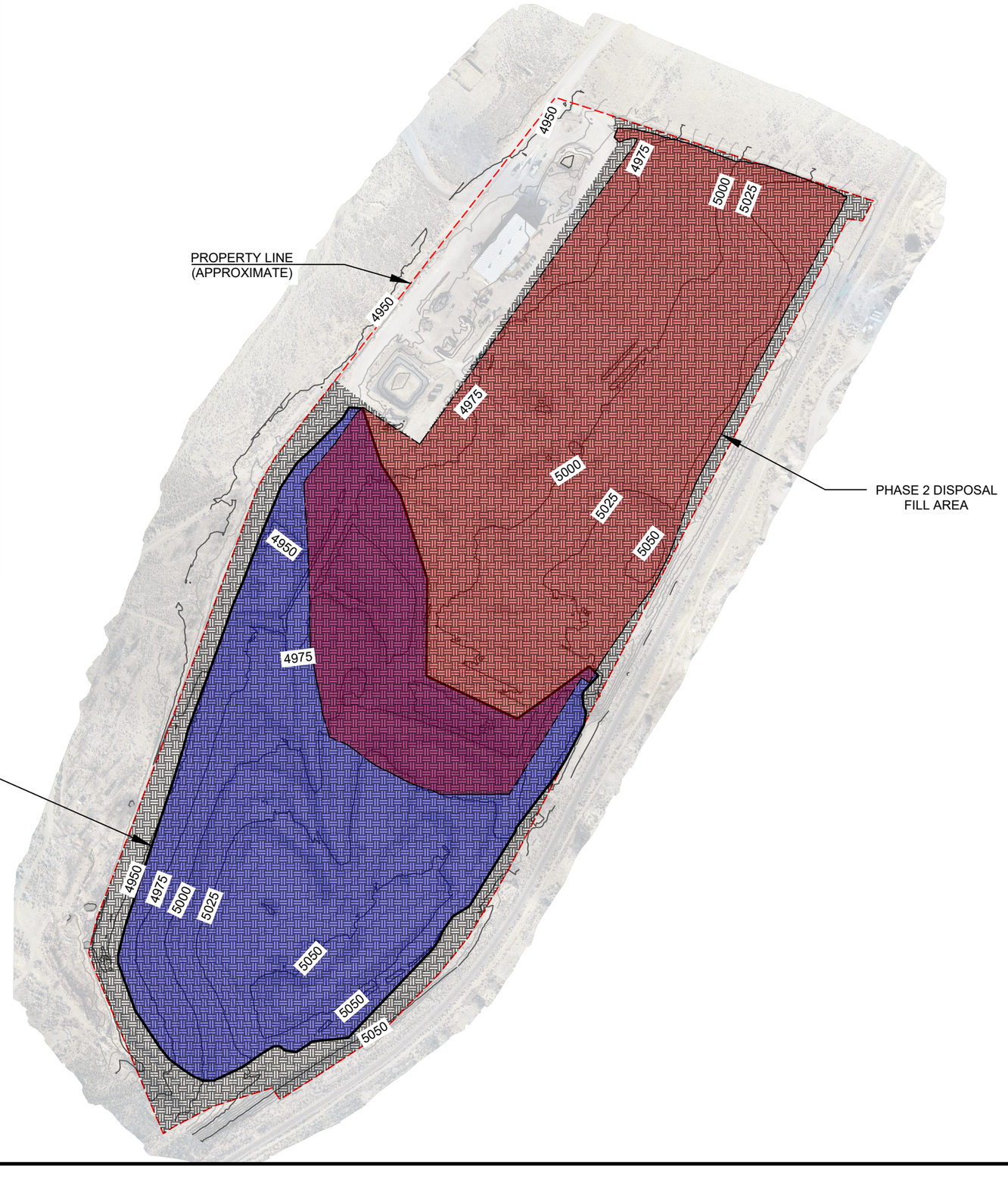
F.2

TOPOGRAPHIC MAP (NORTH)



LEGEND

5 FT. CONTOUR	—5005—
25 FT. CONTOUR	—5025—
PROPERTY LINE (APPROXIMATE)	
BORROW AREA	
PHASE 1 DISPOSAL FILL AREA	
PHASE 2 DISPOSAL FILL AREA	



NO.	DATE	REVISION

TOPOGRAPHIC MAP (NORTH)

TOOELE BAUER LANDFILL FACILITY
TOOELE, UTAH

AE2
ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: _____
DRAWN: TL
CHECKED: _____
DATE: 9/8/21

F.3

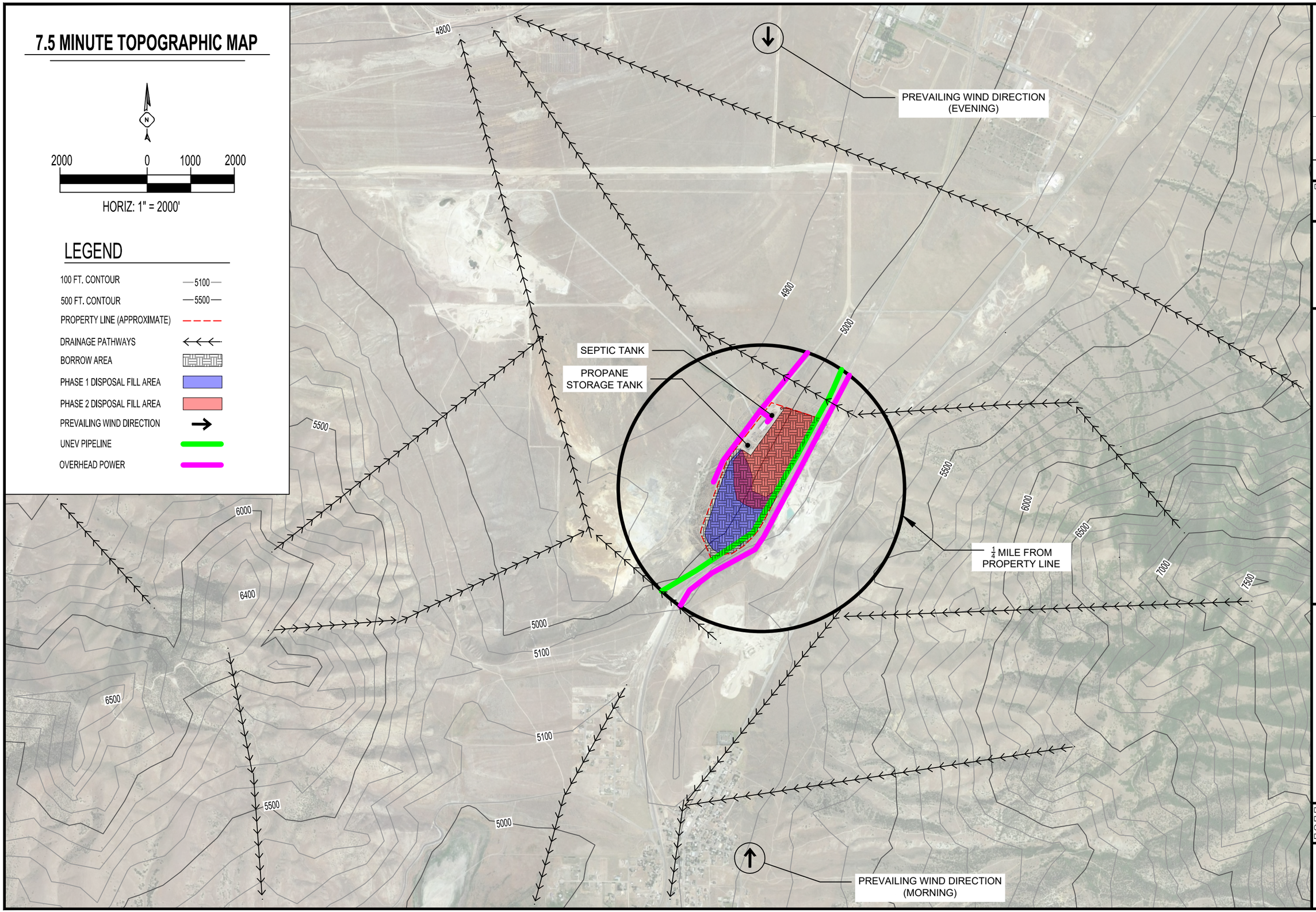
7.5 MINUTE TOPOGRAPHIC MAP

2000 0 1000 2000

HORIZ: 1" = 2000'

LEGEND

- 100 FT. CONTOUR — 5100
- 500 FT. CONTOUR — 5500
- PROPERTY LINE (APPROXIMATE)
- DRAINAGE PATHWAYS
- BORROW AREA
- PHASE 1 DISPOSAL FILL AREA
- PHASE 2 DISPOSAL FILL AREA
- PREVAILING WIND DIRECTION
- UNEV PIPELINE
- OVERHEAD POWER



NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1/2 INCH
0 1/4 1/2

7.5 MINUTE TOPOGRAPHIC MAP

TOOELE BAUER LANDFILL FACILITY
TOOELE, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: _____
DRAWN: TL
CHECKED: _____
DATE: 7/26/2021

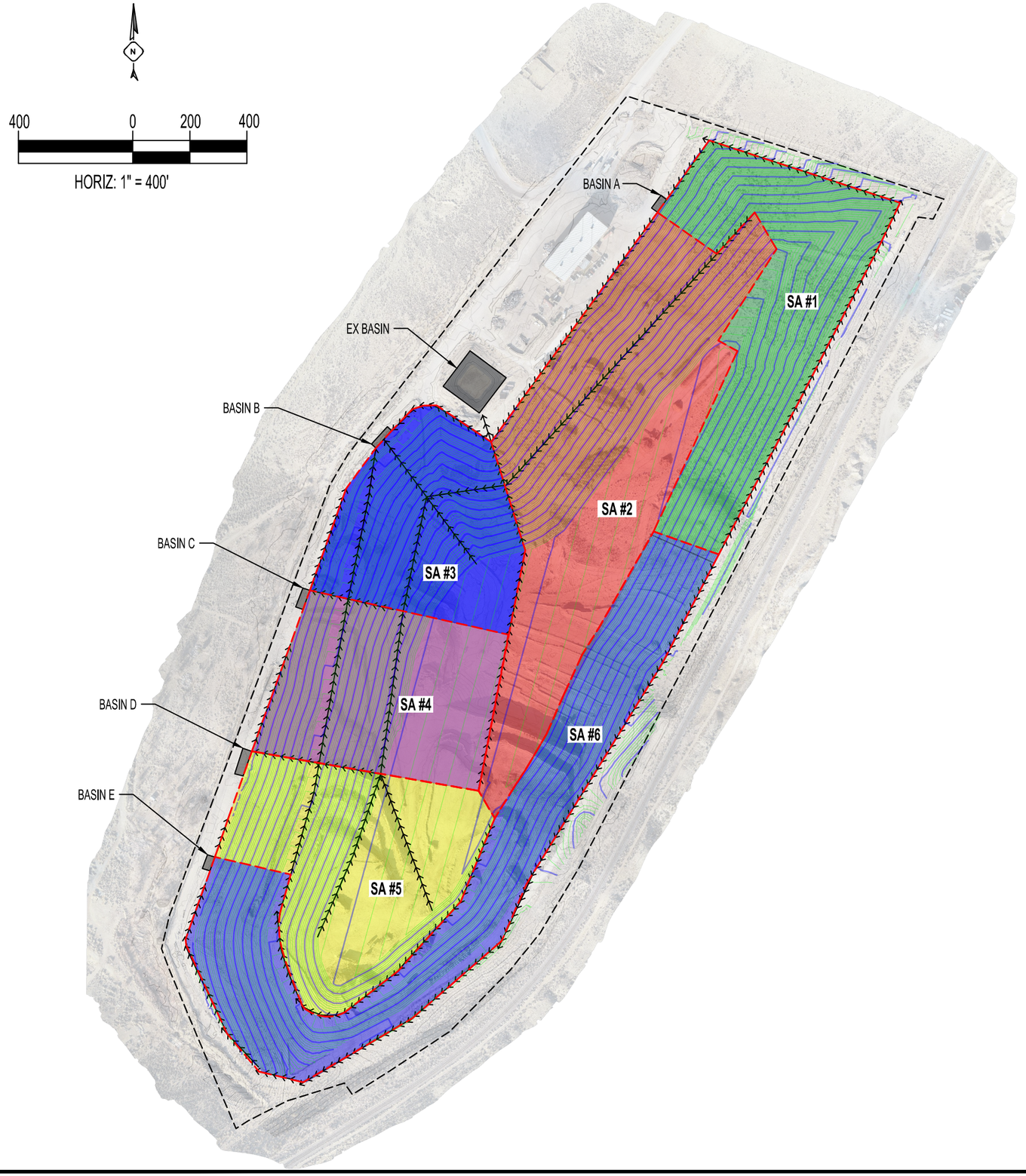
F.4

Attachment #3

Run-On and Run-Off Maps

Appendix F – Storm Water Pollution Prevention Plan

1. Figure SW-1



STORMWATER POLLUTION PREVENTION PLAN

BAUER SOLID WASTE FACILITY

WATERSHED LEGEND

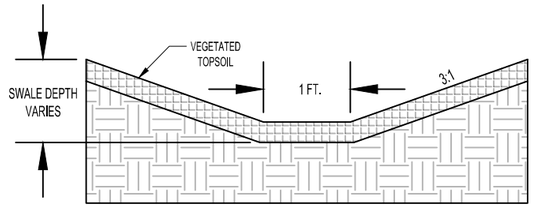
PROPERTY LINE	----------
DRAINAGE SWALE/WATERWAY	→→→→→
EX MAJOR CONTOUR	—5010—
EX MINOR CONTOUR	—5002—
WATERSHED BOUNDARY	– – –

25YR/24HR STORM WATER DISCHARGE

SUB AREA ID	AREA (AC)	PEAK DISCHARGE (CFS.)	CAPACITY (ACRE-FT)
SA 1	11.99	1.77	0.15
SA 2	19.83	4.58	0.38
SA 3	9.14	2.19	0.18
SA 4	9.99	2.41	0.20
SA 5	15.82	3.98	0.33
SA 6	15.76	1.80	0.15
TOTAL	82.53	16.73	1.39

DETENTION BASIN PARAMETERS

BASIN ID	DEPTH (FT.)	CAPACITY (AC-FT)
A	5	0.16
B	5	0.18
C	5	0.20
D	5	0.33
E	5	0.15
EXISTING	11	3.30



TYPICAL DRAINAGE SWALE
N.T.S

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1/2 INCH
0 1/4 1/2

STORMWATER POLLUTION PREVENTION PLAN
BAUER SOLID WASTE FACILITY
TOOELE COUNTY, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE (801) 773-3155

DESIGN: CH
DRAWN: TLL
CHECKED: CH
DATE: 9/7/21

SW-1

LAST SAVED BY: Tyler Lincoln
FILE LOCATION: I:\02154_bauer solid waste facility permit\2 - drawings\dwg\0 - project\1 - storm water analysis\phase 2 - storm water analysis.dwg

Attachment #4

Plan of Operation

I.e Additional Locations Standards for New or Laterally Expanding Class IVb and VI Landfills Requesting the Addition of Dead Animals

I.e.1 Maps showing existing land use

As the purpose of this application is the renewal of an existing Class IVa Landfill, this section is not within the scope of this document.

I.e.2 Certification that no protected species are in site

As the purpose of this application is the renewal of an existing Class IVa Landfill, this section is not within the scope of this document.

I.e.3 Maps showing location of dwellings & historic structures

As the purpose of this application is the renewal of an existing Class IVa Landfill, this section is not within the scope of this document.

I.e.4 List of airports within five miles of facility

As the purpose of this application is the renewal of an existing Class IVa Landfill, this section is not within the scope of this document.

I.f Plan of Operations for All Facilities

I.f.1 Description of on-site Waste Handling Procedures and Example Form R315-302-2(2)(b) and R315-310-3(1)(f)

I.f.1.A Purpose

The purpose of the Plan of Operation (OP) is to provide a written description of the daily operational procedures of the existing Class IVa Landfill. These procedures incorporate the respective operations of the Scale House, Transfer Station, Recycling and Compost Facility, and closed Class IIIb landfill cell monitoring activities.

A landfill is a dynamic system that, over time, generates notable topography changes and therefore requires continual alterations to existing traffic patterns to reach the current active face. Changes may also occur in quantities of disposed materials, demographics of the service area, as well as with the administrative or regulatory requirements themselves. The intent of this Plan of Operations is to provide an accurate description of the current daily operations and procedures while allowing flexibility for the operational changes which will become necessary over time.

I.f.1.B Operational Procedures

I.f.1.B.i Sorting, Recycling, and the Transfer Station

Presently, municipal solid waste generated in Tooele County is transported to the Transfer Station to be sorted. Construction and Demolition (C&D) waste, as well as green waste, is processed on site within their respective disposal areas. Recyclable materials are sorted for shipment to an off-site facility, while municipal solid waste (MSW) is currently shipped from the transfer station to the Wasatch Regional Landfill in Tooele County, Utah. For specific details, the plan of operation for the transfer station and the recycling and compost facility are provided within Appendices K and L respectively.

I.f.1.B.ii Excavation and Construction of the Class IVa Cells

Excavation of the cells begins with the removal of shrubs, grass, and other vegetation growing within the excavation area. The surface soil is stripped to a minimum depth of 6 inches and stockpiled.

The working face of each cell is constructed at a slope of 3 horizontal to 1 vertical (3H:1V). The refuse is unloaded and compacted with landfill equipment like a track-mounted bulldozer or loader prior to placement of additional refuse. The unloading of refuse will be restricted to specific areas at any one time in order to limit the tipping face while facilitating operational safety.

The final covers are also constructed with a maximum slope of 3H:1V following the complete utilization of a cell. The final 24” cover for the Class VI cell consists of an 18-inch minimum thickness of compacted native soil topped 6-inches of topsoil or native soil (which may also be mixed with compost or mulch in order to further encourage vegetative growth). Once in place, the cover is then seeded and lightly compacted to facilitate vegetation and reduce erosion.

I.f.1.B.iii Post-Closure Activities

The Class IIIB Landfill is permitted in 2000 and began post-closure care in 2005. It is currently the only landfill area within the Bauer Facility under post-closure care. Final cover material on sections of the Class IVa cell is currently being installed to complete closure activities.

I.f.1.B.iv Equipment

Sufficient equipment is currently kept and used at the landfill to spread and compact waste, control dust, and perform other facility operations.

The Class VI Landfill cell design is constructed and operated with equipment stored at the site by Tooele County. The County will maintain sufficient equipment to operate the Recycling Facility as well as the Class IV Landfill. If breakdowns or future projects require additional equipment, the Solid Waste Department will then utilize county-owned equipment from other departments. Tooele County may also utilize rental agreements for additional equipment. A current list of facility equipment can be referenced in Appendix C.

I.f.1.C On-Site Solid Waste Handling Procedures

The Landfill is owned and operated by Tooele County. Daily operation of this facility is under the direction of the Solid Waste Director. In the event of the Director absence, a Senior Operator is the designate in charge of the landfill.

At the beginning of each working day, the Director is responsible for informing the Scale House and Operators where to direct solid waste for disposal. The Scale House Operator is then responsible for directing each transport vehicle to the proper location for waste disposal (this could alternatively be accomplished through the placement of directional signs). The Director of Solid Waste, or a Senior Operator, will be present at the landfill during all operating hours.

The County utilizes the pre-existing scale for the Class IV Landfill. The scale operator will perform load counts on a daily basis, making a record of the number of loads, as well as the volume, arriving daily at the site. Incoming refuse directed toward the landfill is deposited at the working face under the overall direction of the Director of Solid Waste or a Senior Operator. An example form used to record weights or volumes of waste received can be referenced in Appendix C.

I.f.2 Schedule for conducting Inspections and Monitoring, and Example Forms R315-302-2(2)(c), R315-302-2(5)(a), and R315-310-3(1)(g)

Tooele County will be responsible for maintaining and inspecting the Bauer Solid Waste Facility at a minimum of a quarterly basis in order to ensure proper safety protocols are being followed. A sample schedule used for monitoring and inspection of the Bauer Solid Waste Facility to ensure proper operation and maintenance is provided in Appendix C. Items that could be inspected on a regular basis are signs, fencing, cover, roads, equipment, etc.

I.f.3 Contingency Plans in the event of a fire or explosion R315-302-2(2)(d)

The Contingency Plan (for a full copy reference Appendix D) is designed to minimize hazards to human health or the environment from any unplanned sudden or non-sudden discharge to air, soil, surface, or groundwater. The provisions of this plan will be carried out immediately upon an emergency or sudden release. However, emergency evacuation of the site would likely not be necessary given the nature of the waste materials stored and processed at the site. The probabilities of incidents caused by fire, explosion, or toxic vapor generation are remote.

I.f.3.A Fire or Explosion

The primary means of fire control in the Class IV Landfill is to isolate hot or burning solid waste. In the event that a fire does erupt during operating hours, the burning material will be separated from the other materials and doused with water or controlled with fire suppression equipment. This action will be supported, when necessary, by the mobilization of additional equipment owned and operated by the County. A propane storage stank, located south of the Transfer Station, also poses a potential fire risk and extra caution is taken within the immediate area of the tank.

I.f.3.B Explosive Gas Release

It is not expected that the type of waste deposited will produce significant amounts of explosive gases.

I.f.4 Fugitive Dust Plan R315-302-2(2)(g)

Tooele County currently utilizes a water truck to reduce generation of fugitive dust produced by traffic on access roads. The prevailing winds in the area change direction as the day passes. In the morning, the prevailing winds are typically from the south, while in the evening they primarily blow from the north. This change in wind direction is primarily due to effects caused by proximity to the Great Salt Lake.

I.f.5 Plan for Litter Control and Collection R315-302-2(2)(h)

The Landfill Manager will continue the ongoing litter collection program in order to minimize the impact of litter on the site and adjacent properties. This program consists of various activities designed to reduce windblown litter in addition to other site features and operations that aid in the reduction of windblown litter. Activities specifically designed to reduce amounts of windblown litter include minimizing the size of the active face to the extent possible (reducing the area of wastes exposed to wind), and the placement of temporary litter fences downwind from the active face. The height and length of these fences can be also adjusted to maximize their effectiveness in trapping windblown litter.

Other features and operating techniques that reduce windblown litter include perimeter fencing around the landfill site, providing a secondary barrier behind the temporary fencing. The application of daily and intermediate soil cover, and the compaction of refuse layers at a maximum thickness of two feet in order to better incorporate freshly deposited refuse to underlying landfill layers. Site and surrounding area inspections will be conducted on a routinely daily basis, and any windblown litter found will be collected. The Maintenance Schedule also provides a section for the tracking of regular litter-control activities (Appendix C).

I.f.6 Hazardous Waste Exclusion Plan R315-302-2(2)(j)

A "Prohibited Waste" control program designed to detect and deter attempts to dispose of hazardous and other unacceptable waste is presently implemented at the Bauer Solid Waste Facility. The program is designed to protect the health and safety of employees, customers, and the general public, as well as protect against contamination of the environment. The Director of Solid Waste is responsible for activities related to the prohibited solid waste control program.

The site is open for public and private disposal. Signs are posted near the site entrance clearly indicating the types of wastes to be accepted and rejected. All vehicles delivering wastes to the site are stopped at the Scale House. Scale House personnel, to the extent possible; visually inspect incoming waste for prohibited waste materials. Any vehicle suspected of carrying unacceptable materials (PCB containing material, liquid waste, sludge, or hazardous waste) is prevented from

entering the disposal site area. Vehicles carrying prohibited waste are required to exit the site without tipping their loads. If a load contained or was suspected of containing prohibited materials, the Director will be notified and the following information recorded: date, name of hauler, and license plate number.

After the load is inspected at the Scale House, the vehicle is directed to the appropriate discharge location. Facility personnel regularly inspect loads at the sites. If a discharged load contained prohibited waste, the discharger will be required to remove it from the site. The discharger will be instructed on acceptable locations and methods for disposal. Tooele County Health Department will be notified of any rejected loads.

If the identity of discharger were unknown, the area where the hazardous material was discharged will be cordoned off. These materials will be moved to a designated area for identification and preparation for proper disposal by appropriate personnel.

The operators at the working face of the cell are also responsible for identification and prohibition of excluded wastes. All employees are trained in methods and techniques for spotting liquid waste, drums, waste in sealed containers, red-bag waste, PCB waste, and waste which exhibited unusual odors or markings. All such waste is excluded from the landfill and upon discovery is segregated from acceptable waste pending alternative disposal.

I.f.7 Disease Vector Control Plan R315-302-2(2)(k)

The expectations for the need to control disease vectors in a construction and demolition waste landfill are minimal. Keeping the open working face small, thoroughly compacting, and covering the waste with soil have been effective in preventing disease vectors from becoming a problem.

I.f.8 Alternative Waste Handling Plan R315-302-2(2)(I)

If problems were to occur that prevented the use of the Class IV Landfill, the solid waste will be redirected to the Transfer Station. In the event of a major equipment failure, solid waste will be loaded and shipped to an alternative waste disposal facility such as Wasatch Regional, Salt Lake County, West Wendover, Ibapah, or Elko.

I.f.9 General Training Plan for Site Operations R315-302-2(2)(o)

Each employee at the landfill facility is trained to have a working knowledge of the maintenance and operational techniques necessary to operate and maintain the landfill facility in a manner consistent with the preservation of human health or safety and the environment. Training is accomplished through on-the-job training (OJT) and classroom training sessions. The Director of Solid Waste, or a designated professional trainer, is in charge of directing these training programs. Initial training is completed within three months of employment followed by an annual review of basic waste management skills.

I.f.9.A Training Schedule

The Solid Waste Director is required to certify as a Manager of Solid Waste, Manager of C&D Landfill and Manager of Transfer Station by completing the training courses and fulfilling the certification requirements. In addition, operators are required to take Landfill Operator and Waste Screening training courses. Continuing education efforts include the following:

I.f.9.A.i Introductory Training

Synopsis of solid waste regulations, record keeping, and transporter requirements.

- Requirement: All Personnel
- Method: Lecture/video course, OJT
- Review: Annual

I.f.9.A.ii Policies and Procedures

Security, inspections, and emergency response.

- Requirement: All Personnel
- Method: Lecture/video course, OJT
- Review: Annual

I.f.9.A.iii Safety

Personal protection, hazardous waste recognition, hazardous material handling, emergency response, fire protection, and basic first aid.

- Requirement: All Personnel
- Method: Lecture/video course
- Review: Annual

A Safety Training meeting is held once a week with a minimum duration of 15 minutes.

I.f.10 Recycling Programs
R315-303-4(6)

As discussed previously, the transfer station will sort any municipal solid waste and recyclables before transporting those materials to where they can be shipped for processing.

I.f.11 Any other Site-Specific Information Required by the Director
R315-302-2(2)(p)

There is no other site-specific information that the Director requires.

I.g Additional Plan of Operation Requirements for Class IVa Facilities

I.g.1 Corrective Action Programs to be initiated if ground water is contaminated R315-302-2(2)(e)

I.g.1.A Assessment Monitoring Program

This Assessment Monitoring Program (AMP) will continue to be utilized whenever a statistically significant contaminant concentration, with respect to background levels has been detected for one or more of the constituents listed in R315-308-4 that has an associated groundwater protection standard. If an outside source has made claim of groundwater contamination because of the operations of the Bauer Solid Waste Facility, Tooele County will perform an investigation to determine if contamination is found. If possible contamination (as described above) is detected, Tooele County will:

- Notify Division of Waste Management and Radiation Control (DWMRC) of the Utah Department of Environmental Quality (UDEQ), in writing, within 14 days of the completion of the statistical analysis of the sample results and within 30 days of the receipt of the sample results within 14 days of obtaining laboratory results at:

  UDEQ - Division of Waste Management and Radiation Control
  288 North 1460 West
  Salt Lake City, Utah 84114-4880

- Identify the parameters that have shown statistically significant changes. This information will be included in the notification.
- Enter sampling analysis results into the operating record.
- Immediately re-sample the groundwater in all wells, or a subset of the wells as specified by the Director, for all constituents listed in R315-308 and determine whether a statistically significant change has occurred such that the groundwater protection level has been exceeded. If a statistically significant change has occurred, Tooele County will report the sample analysis results, in writing, within 7 days of their receipt to the above-noted address.

Tooele County may demonstrate that a source other than its inert waste disposal facility caused the contamination per R315-308. A demonstration report must be prepared by a qualified groundwater scientist and be approved by the Director. If approved, Tooele County will determine if it is in their best interest to continue to monitor the groundwater.

If, after 90 days, a demonstration has not been made that a source other than the facility caused the contamination, Tooele County will initiate the following:

- Within 14 days of the determination that a successful demonstration is not made, take one sample from each downgradient well and analyze for all constituents listed in Appendix II in 40 CFR Part 258, 2001 edition.
- For any constituent from Appendix II, 40 CFR Part 258, detected in the downgradient wells, four samples from the up-gradient wells and four samples from the downgradient

wells must be collected and statistically evaluated to establish background concentration levels for the constituents and analyzed to determine background levels.

- Within 14 days of the completion of the statistical analysis of the sample results and within 30 days of the receipt of the sample results, place a notice in the operation record and notify the Director in writing.
- Tooele County will then re-sample all wells on a quarterly basis for the constituents listed in R315-308 and the detected constituents from Appendix II of 40 CFR Part 258.
- Tooele County will also sample all downgradient wells on an annual basis for all 40 CFR Part 258 Appendix II constituents.

If, after two consecutive sampling events, the concentrations of all constituents are shown to be at or below established background levels, Tooele County must notify the Director, in writing, within 14 days. After which, upon approval by the Director, Tooele County may return to assessment monitoring under the approved groundwater monitoring plan.

If one or more of the constituents from R315-308-4 or Appendix II are detected at statistically significant levels above the groundwater protection standard in any sampling event, Tooele County must:

- Within 14 days of the receipt of this finding of this finding, notify the Director, the appropriate local governing agencies, and the local health department that groundwater quality standards have been exceeded.
- Place a notice in the operating record identifying the constituents that have exceeded the groundwater protection standard and their concentrations.
- Characterize the nature and extent of the release by installing additional monitoring wells, as necessary.
- Install at least one well on the downgradient property line and sample and analyze for constituents in R315-308 and the detected constituents from Appendix II.
- Notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site as indicated by sampling of wells.

If Tooele County can demonstrate that a source other than the solid waste disposal facility caused the contamination or that the statistically significant change resulted from error in sampling, analysis, statistical evaluation, or groundwater quality, they may continue monitoring as specified in R315-308-2(12)(d) or Subsection R315-308-2(12)(e) when applicable R315-308. To demonstrate this, Tooele County must prepare a report that is certified by a qualified groundwater scientist, must enter the report into the operating record, and must obtain approval of the report from the Director.

I.g.1.B Corrective Action Program

If a successful demonstration per R315-308 has not been made within 90 days, indicating that a source other than the solid waste disposal facility may be the cause of contamination, a Corrective Action Program (CAP) (R315-308-3) will be required. The CAP requires Tooele County to:

- Continue to monitor as required in R315-308.

- Take any interim measures as required by the Director to ensure the protection of human health and the environment.
- Prepare a Corrective Action Plan to assess the current conditions and circumstances of the solid waste disposal facilities.
- Select a remedial action based on the Corrective Action Plan and public comments.
- Continue remedial action until Tooele County notifies the Director, in writing, that the contaminant concentrations have been reduced to levels below the established background concentrations for a period of 3 years or an approved alternative length of time. Tooele County and a qualified groundwater scientist must sign and certify the report demonstrating the successful completion of remedial action. Upon Director approval, Tooele County will terminate corrective action measures and continue to monitor per R315-308.

The Corrective Action Plan will address the following specific items at a minimum:

- Description of selected remedy.
- Time required to begin and complete the remedy.
- Cost of remedial action.
- Public health and environmental requirements that may substantially affect the implementation of the remedy.
- Comments from a public meeting held to discuss the corrective action.
- Performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control exposure to any residual contamination.

The Corrective Action Plan will be submitted within 14 days after the selection of a final remedy. Tooele County must:

- Amend the Corrective Action Plan, as necessary, and submit a report to the Director for approval describing the remedy and providing a schedule for implementation and estimated time of completion.
- Put into place the financial assurance mechanisms as required by R315-309 and notify the Director of the financial assurance mechanism and its effective date.

In selecting a remedy, Tooele County will consider:

- Nature and extent of contamination.
- Resource value of the groundwater.
- Long- and short-term effectiveness of the remedy.
- Effectiveness of the remedy in controlling the source to reduce or eliminate further releases.
- Ease or difficulty of implementation.
- Practicable capability of owner or operator including technical or economic capability.
- Degree to which community concerns are addressed.
- Any other relevant factors.
- Attain the established groundwater quality standard.

All possible remedies, including no-action alternatives, will be evaluated. Evaluation of the technical and economic items listed above will be demonstrated to the satisfaction of the Director.

Attachment #5

Example Forms

Appendix C – Scale House Ticket and Other Example Forms

1. Scale House Ticket Sample
2. Facility Inspection Form
3. Maintenance Schedule
4. Equipment List
5. Incoming Waste Report 2020

435-843-4785
TOOELE COUNTY SOLID WASTE
HOURS MON-SAT 7:30-5:30 PM
CLOSED SUNDAYS AND HOLIDAYS

Weighed: leslie
BILL TO: 0
CASH

Vehicle ID:
Reference:
Grid: LANDFILL

Origin: COUNTY
DATE IN: 09/09/2021 TIME IN: 09:55:43
DATE OUT: 09/09/2021 TIME OUT: 09:55:43

INBOUND TICKET Number: 02-00718674

MANUAL GROSS WT.	100	LB
MANUAL TARE WT.	100	LB
NET WEIGHT	0	LB

Qty	Description	Amount
0.00	weight	0.00

TICKET AMOUNT: 0.00

X_____

TOOELE COUNTY HEALTH DEPARTMENT
SOLID WASTE MANAGEMENT FACILITY INSPECTION FORM

Site Name _____ Telephone _____ Date _____
Site Location _____ Site Owner/Operator _____
Facility Type: Municipal ___ C/D ___ Asbestos ___ Private ___ Other (specify) _____
Inspection Type: Construction ___ Permit ___ Complaint ___ Routine ___ Closure ___ Post-Closure ___
Consultation ___ Training ___
Site Acreage _____ Estimated Site Life Remaining _____

LEGEND OF INSPECTION NOTATION: X = Violation, OK = No violation, BLANK = Not inspected/Not applicable

UNAUTHORIZED WASTE EXCLUSION
( ) 1. Incoming loads inspected
(Check applicable methods)
( ) Random ( )10% ( )Suspicious
( ) 2. Procedures for notification implemented
( ) 3. Unauthorized or hazardous waste accepted
(specify in remarks)

WASTE COMPACTING
( ) 4. Adequate waste compacting equipment available
( ) 5. Waste compacting adequate

DAILY COVER
( ) 6. Daily cover provided (note type in remarks)
( ) 7. Daily cover thickness adequate

ACCESS CONTROL
( ) 8. Unauthorized access controlled
(note measures in remarks)

LITTER CONTROL
( ) 9. Litter control program in place
( ) 10. Access roads and facility free of litter

DISEASE & VECTOR CONTROL
( ) 11. Rodent, mosquito, fly measures taken
( ) 12. Rodent, mosquito, fly conditions present

AIR QUALITY
( ) 13. Open burning
( ) 14. Surface or subsurface fires
( ) 15. Appropriate air emission parameters monitored
( ) 16. Fugitive dust controls in place

RECORD KEEPING
(Documents kept and available)
( ) 17. Hard copy of operational plan
( ) 18. Employees trained on operational plan
( ) 19. Closure and post-closure plans
( ) 20. Cost estimates and financial assurance documents
( ) 21. Incoming load inspections
( ) 22. Rejected waste loads (including hauler's name)
( ) 23. Groundwater monitoring results
( ) 24. Methane gas monitoring results
( ) 25. Air emissions monitoring
( ) 26. County and State inspections
( ) 27. Personnel trained
( ) 28. Training program procedures
( ) 29. Inspection procedures
( ) 30. Closure and post-closure plans
( ) 31. Cost estimates and financial assurance

LINER
( ) 32. Constructed with an impermeable liner system
(specify type and thickness in remarks)

EXPLOSIVE GASES
( ) 33. Methane gas recovery or venting system in place
(specify type in remarks)
( ) 34. Methane gas monitored

LEACHATE COLLECTION SYSTEM
( ) 36. Constructed with a leachate collection system
( ) 37. Leachate collection system and operation approved

SURFACE WATER & RUN-ON/OFF CONTROL SYSTEM
( ) 38. System for diverting 24-hour, 25-year storm event
( ) 39. System for treating 24-hour, 25-year storm event
( ) 40. Refuse impacted surface water properly discharged

FINAL COVER
( ) 41. Covered with engineered system
( ) 42. 24 inch minimum thickness
( ) 43. Final cover meets maximum permeability requirement
( ) 44. Upper 6" capable of supporting vegetation
( ) 45. Completed portions of landfill re-vegetated
(note type in comments)

GROUNDWATER MONITORING SYSTEM
( ) 46. Groundwater monitoring system in place
( ) 47. Groundwater sampled and analyzed at required intervals
( ) 48. Department has latest groundwater results performed
( ) 49. Statistical comparison of analytical results performed
( ) 50. Wells: locked, concrete pad intact, casing intact, covered

CLOSURE PLAN
( ) 51. Methods, procedures, and process to be used for closure
( ) 52. Estimate of the portion of the landfill open for disposal
( ) 53. Estimate of the maximum inventory of wastes during landfill lifetime
( ) 54. Description of the final cover design
( ) 55. Schedule to complete closure
( ) 56. Inspections for settling
( ) 57. Inspections for subsidence
( ) 58. Inspections for erosion
( ) 59. Erosion prevention plan
( ) 60. Maintenance and operations for leachate collection and disposal
( ) 61. Groundwater monitoring
( ) 62. Methane gas monitoring

FINANCIAL ASSURANCE
( ) 63. Cost estimate of third party closure implementation
( ) 64. Cost estimate of third party post-closure implementation
( ) 65. Mechanism for funding closure and post-closure care

SITING RESTRICTION
( ) 66. 10,000 feet from turbojet aircraft airport
( ) 67. 5,000 feet from piston aircraft airport
( ) 68. In a 100-year flood plain
( ) 69. Measures taken to divert water flow from facility
( ) 70. Any part of facility or expansion area in a wetland
( ) 71. Within 200 feet of a fault having a displacement in Holocene
( ) 72. Within "seismic impact zone"
( ) 73. Within landslide prone area
( ) 74. Within subsidence prone area
( ) 75. Over Karst terrain or cavern
( ) 76. Within expansive soils area

Env. Health Specialist Signature: _____
Facility Operator Signature: _____

MAINTENANCE SCHEDULE

BAUER LANDFILL FACILITY				
FACILITY SIGNS Directions for Discharging	Date:	Date:	Date:	Date:
PERIMITER FENCING Performed Quarterly	Date:	Date:	Date:	Date:
ANNUAL REPORT Before March 1	Date:			

CLASS IIIb LANDFILL				
COVER (erosion, settlement) Performed Quarterly	Date:	Date:	Date:	Date:
DRAINAGE (around cell) Performed Quarterly	Date:	Date:	Date:	Date:
ROADS (access road) Performed Quarterly	Date:	Date:	Date:	Date:

CLASS IV LANDFILL						
COVER (erosion, settlement) Performed Quarterly	Date:		Date:		Date:	Date:
DRAINAGE (around cells) Performed Quarterly	Date:		Date:		Date:	Date:
ROADS (access roads) Performed Quarterly	Date:		Date:		Date:	Date:
EQUIPMENT (maintenance) Manufactures Recommendations	Date:	Date:	Date:	Date:	Date:	Date:

RECYCLING AND COMPOST FACILITY						
DRAINAGE (run-off and run-on) Performed Quarterly	Date:		Date:		Date:	Date:
EQUIPMENT (maintenance) Manufactures Recommendations	Date:	Date:	Date:	Date:	Date:	Date:
TEMPERATURE As Needed						
CAPTURE BASIN / ASPHALT PAD Performed Every Other Month	Date:	Date:	Date:	Date:	Date:	Date:
ROADS (access roads) Performed Quarterly	Date:		Date:		Date:	Date:

TRANSFER STATION						
HARBORAGE (rodents, insects, etc.) Performed Quarterly	Date:		Date:		Date:	Date:
EQUIPMENT (maintenance) Manufactures Recommendations	Date:	Date:	Date:	Date:	Date:	Date:
ROADS (all weather access) Performed As Required	Date:	Date:	Date:	Date:	Date:	Date:

YEAR	MAKE	MODEL	VIN
1997	INTERNATIONAL	TRUCK	1HTGLAHT0VH443058
1999	CHEVROLET	TAHOE	1GNEK13R9XJ549739
2000	VOLVO	ROLL OFF TRUCK	4V5SC2UF6YN520373
2001	FORD	F150	1FTPX18L81NB22916
2001	FORD	F150 X-CAB	1FTRX18L01NA30997
2003	FORD	F150 X-CAB	2FTPX18L03CA73218
2003	FORD	F150 X-CAB	2FTPX18L33CA90465
2003	FORD	RANGER SUPER	1FTZR45E43TA41534
2017	FREIGHTLINER	114SD	1FUJG3DV4HHHV6964
2017	FREIGHTLINER	114SD	1FUJG3DV6HHHV6965
2017	MCTM	TNSP48FR1000-201 TRAILER	5MAMN4828HW038738
2017	MCTM	TNAR53FR1000	5MAMN5326HW040310
2018	IMFO	IMCO	1M9W48282J1041044
2018	IMFO	IMCO	1M9W48286J1041046
2018	KENWORTH	T880	1XKZD40X6KJ233141
2019	FORD	F150	1FTFX1E58KKC23540
2019	FORD	F250	1FT7X2B68KEE03544
2021	FREIGHTLINER	M2	3ALHCYD26MDML9760
2021	WESTERN STAR	4900	5KJJBWD15MLMV0691
2018	CAT	TRACK HOE	CAT00323KRAZ00767
2018	CAT	938M LOADER	J3R05976
2015	VOLVO	L90H LOADER	623108
2014	BOBCAT	SKIDSTEER	ALR811829

YEAR	MAKE	MODEL	VIN
2009	CASE	621-D	N9F206770
2005	GEHL	CTS-16T	
2001	KOMATSU	TRACK HOE	C30142
1999	CAT	D8N DOZER	05TJ02328
1997	FORD	4X4	1FTJW36H3VEB69585
	CASE	435	N4M400023
	GRINDER		21-2-61-0083
	TROMMEL SCREEN		167045
	CAT	FORKLIFT	1CM00737
2015	VOLVO	BUCKET	215739-1-1
2018	VOLVO	L90H LOADER	617730

Material Analysis Report by Material

Inbound and outbound materials for the period 01/01/2020 - 12/31/2020
Summary Report for Sites: 1, 2
Accounts 0 - 999999 Customer Types - Z Materials - ZZZZZZZZZZ Material Types - ZZ

Date	Material	Type	Customer	Type	Tickets	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Charge
	MULCH			Total	1	0	1	1	0.00	0.00	20.00
				Average		0	1	1	0.00	0.00	20.00
	OUT-MSW			Total	1434	1	0	0	32761.94	32761.94	0.00
				Average		0	0	0	22.85	22.85	0.00
	P			Total	1	0	3	3	0.00	0.00	3.00
				Average		0	3	3	0.00	0.00	3.00
	PALLETS			Total	8	0	15	15	0.00	0.00	75.00
				Average		0	2	2	0.00	0.00	9.38
	PLY-WOOD			Total	55	6	436	436	0.00	0.00	2,180.00
				Average		0	8	8	0.00	0.00	39.64
	RES			Total	3737	3731	2412	2412	29117.73	29117.73	1,048,259.52
				Average		1	1	1	7.79	7.79	280.51
	ROAD			Total	103	79	22	22	1522.66	1522.66	4,949.93
				Average		1	0	0	14.78	14.78	48.06
	SLUDGE			Total	92	0	0	0	100.48	100.48	4,521.60
				Average		0	0	0	1.09	1.09	49.15
	SM			Total	2	0	2	2	0.00	0.00	500.00
				Average		0	1	1	0.00	0.00	250.00
	T			Total	307	864	2	2	7.19	7.19	2,317.00
				Average		3	0	0	0.02	0.02	7.55
	WEIGHT			Total	48	2	1	1	82.20	82.20	0.00
				Average		0	0	0	1.71	1.71	0.00
	WL			Total	117	123	772	772	478.97	478.97	2,460.00
				Average		1	7	7	4.09	4.09	21.03
	WOOD			Total	442	10252	2	2	0.02	0.02	17,305.00
				Average		23	0	0	0.00	0.00	39.15
	WOODCHIPS			Total	144	4	236	236	0.00	0.00	4,620.00

Material Analysis Report by Material

Inbound and outbound materials for the period 01/01/2020 - 12/31/2020
Summary Report for Sites: 1, 2
Accounts 0 - 999999 Customer Types - Z Materials - ZZZZZZZZZZ Material Types - ZZ

Date	Material	Type	Customer	Type	Tickets	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Charge
	ACE 30			Total	28	0	344	344	0.22	0.00	1,630.00
				Average		0	12	12	0.01	0.00	58.21
	ACE 40			Total	1	0	0	0	0.00	0.00	-165.00
				Average		0	0	0	0.00	0.00	-165.00
	ANIMALS			Total	524	0	0	0	489.44	489.44	20,717.47
				Average		0	0	0	0.93	0.93	39.54
	ARMY 15			Total	36	36	540	540	166.24	166.24	4,050.00
				Average		1	15	15	4.62	4.62	112.50
	ARMY 30			Total	159	159	4770	4770	423.47	423.47	35,775.00
				Average		1	30	30	2.66	2.66	225.00
	C&D			Total	142	221	2209	2149	617.04	617.04	16,162.96
				Average		2	16	15	4.35	4.35	113.82
	COM			Total	24922	31346	94553	94493	44085.93	44085.93	720,790.50
				Average		1	4	4	1.77	1.77	28.92
	COMMERICAL			Total	728	736	390	360	3783.69	3783.69	158,720.04
				Average		1	1	0	5.20	5.20	218.02
	FIREWOOD			Total	174	17	128	128	0.00	0.00	1,285.00
				Average		0	1	1	0.00	0.00	7.39
	HH			Total	7661	7879	7633	7633	1986.35	1986.35	101,413.00
				Average		1	1	1	0.26	0.26	13.24
	I&M			Total	1276	1276	45545	45545	3374.84	3374.84	341,587.50
				Average		1	36	36	2.64	2.64	267.70
	METAL OUT			Total	48	48	0	0	282.11	282.11	0.00
				Average		1	0	0	5.88	5.88	0.00
	MISC.			Total	1	0	0	0	0.00	0.00	0.00
				Average		0	0	0	0.00	0.00	0.00
	MSW			Total	48	48	0	0	127.95	127.95	5,400.96
				Average		1	0	0	2.67	2.67	112.52

Material Analysis Report by Material

Inbound and outbound materials for the period 01/01/2020 - 12/31/2020
Summary Report for Sites: 1, 2
Accounts 0 - 999999 Customer Types - Z Materials - ZZZZZZZZZZ Material Types - ZZ

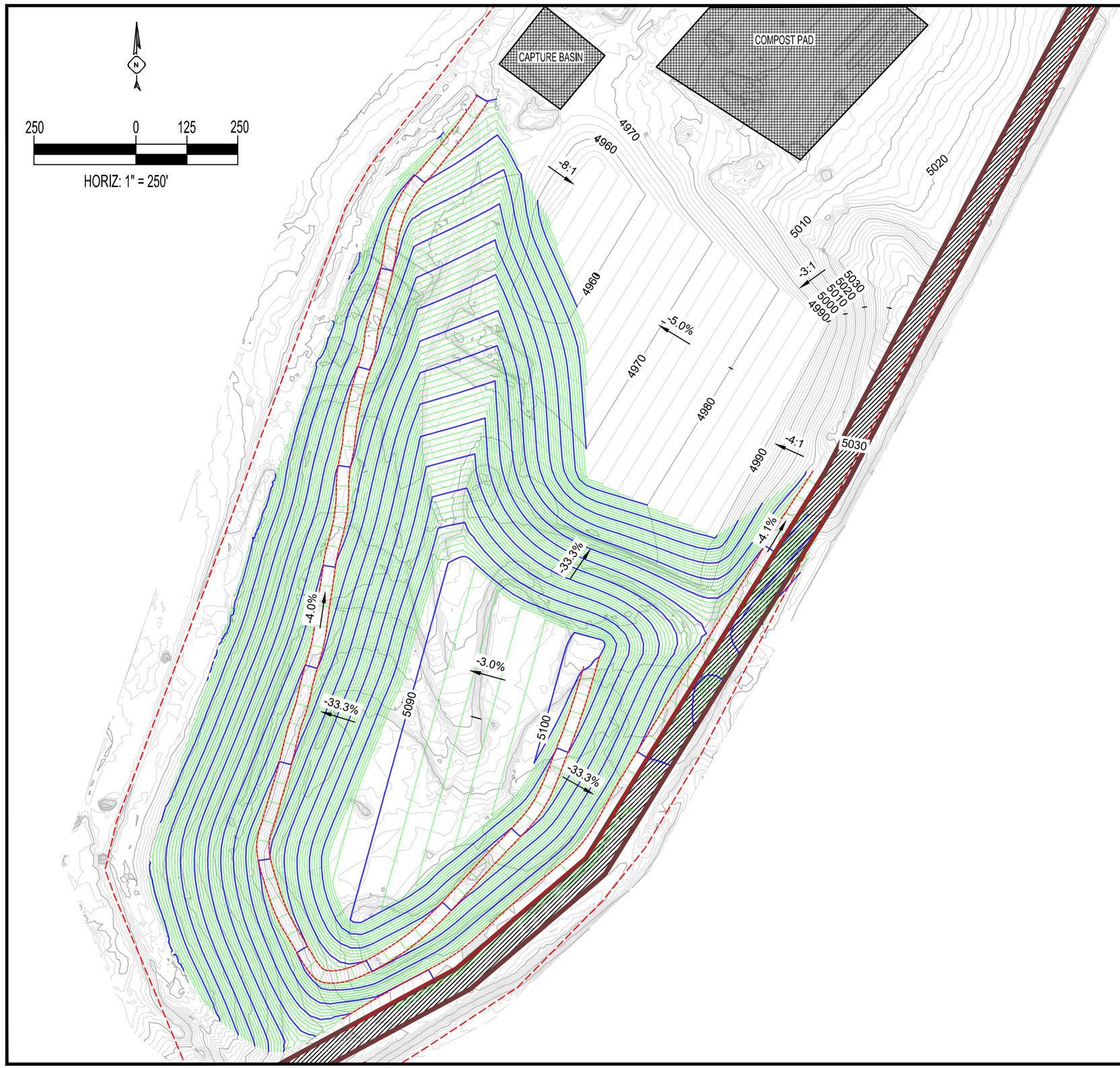
Date	Material	Type	Customer	Type	Tickets	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Charge
				Average		0	2	2	0.00	0.00	32.08
	WS			Total	1	1	0	0	0.05	0.05	7.00
				Average		1	0	0	0.05	0.05	7.00
	YL			Total	380	393	416	416	639.97	639.97	7,840.00
				Average		1	1	1	1.68	1.68	20.63
	YS			Total	5974	7202	7215	7215	2385.51	2385.51	49,854.00
				Average		1	1	1	0.40	0.40	8.35
	ZBAL			Total	388	0	0	0	0.00	0.00	107,034.16
				Average		0	0	0	0.00	0.00	275.86
	ZBALFWD			Total	1	0	0	0	0.00	0.00	3.00
				Average		0	0	0	0.00	0.00	3.00
				Report Total	**48983**	**64424**	**167647**	**167497**	**122434.00**	**122433.78**	**2,659,316.64**
				Report Average		**1**	**3**	**3**	**2.50**	**2.50**	**54.29**

Attachment #6

Facility Life Projections

Appendix I – Facility Life Projections

1. Figure 1 – Phase 1 Grading Plan
2. Figure 2 – Phase 1 Earthwork
3. Figure 3 – Phase 1 Borrow Area
4. Figure 4 – Borrow Area Earthwork
5. Figure 5 – Phase 2 Grading Plan
6. Figure 6 – Full Development
7. Facility Life Projection Table



250 0 125 250

HORIZ: 1" = 250'

PHASE 1 - GRADING PLAN

BAUER LANDFILL FACILITY

LEGEND

- UNEV PIPELINE ROW
- NOTABLE FACILITY FEATURE
- PR SERVICE ROAD
- PR MAJOR CONTOUR — 5010
- PR MINOR CONTOUR — 5002
- EX (W/ PR BORROW) MAJOR CONTOUR — 5010
- EX (W/ PR BORROW) MINOR CONTOUR — 5002

STATISTICS

FINISHED CELL

TOTAL VOLUME (CY): 2,040,000

DISPOSAL VOLUME (CY): 1,632,000 [734,400 TONS]

COVER VOLUME (CY): 408,000

BORROW PIT

TOTAL VOLUME FROM CUT (CY): 550,400

DISPOSAL VOLUME (CY): 440,320 [198,144 TONS]

REQUIRED COVER MATERIAL(FOR ALL AREAS): 518,080 CY

PROVIDED COVER MATERIAL: 550,400 CY

SURPLUS COVER: 32,320 CY

ASSUMPTIONS

WASTE DENSITY: 900 PCY (0.45 TONS PER CUBIC YARD)

GENERAL NOTES

1. **SHOWN UNEV R.O.W LOCATION IS APPROXIMATE**

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

UTAH LICENSED PROFESSIONAL ENGINEER
No. 388[illegible]
CHET A. HOVEY
4-12-21
STATE OF UTAH

PHASE 1- GRADING PLAN

BAUER LANDFILL FACILITY
TOOELE COUNTY, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: CH
DRAWN: TL
CHECKED: CH
DATE: 7/28/21

F-1

PHASE 1 - CUT/FILL

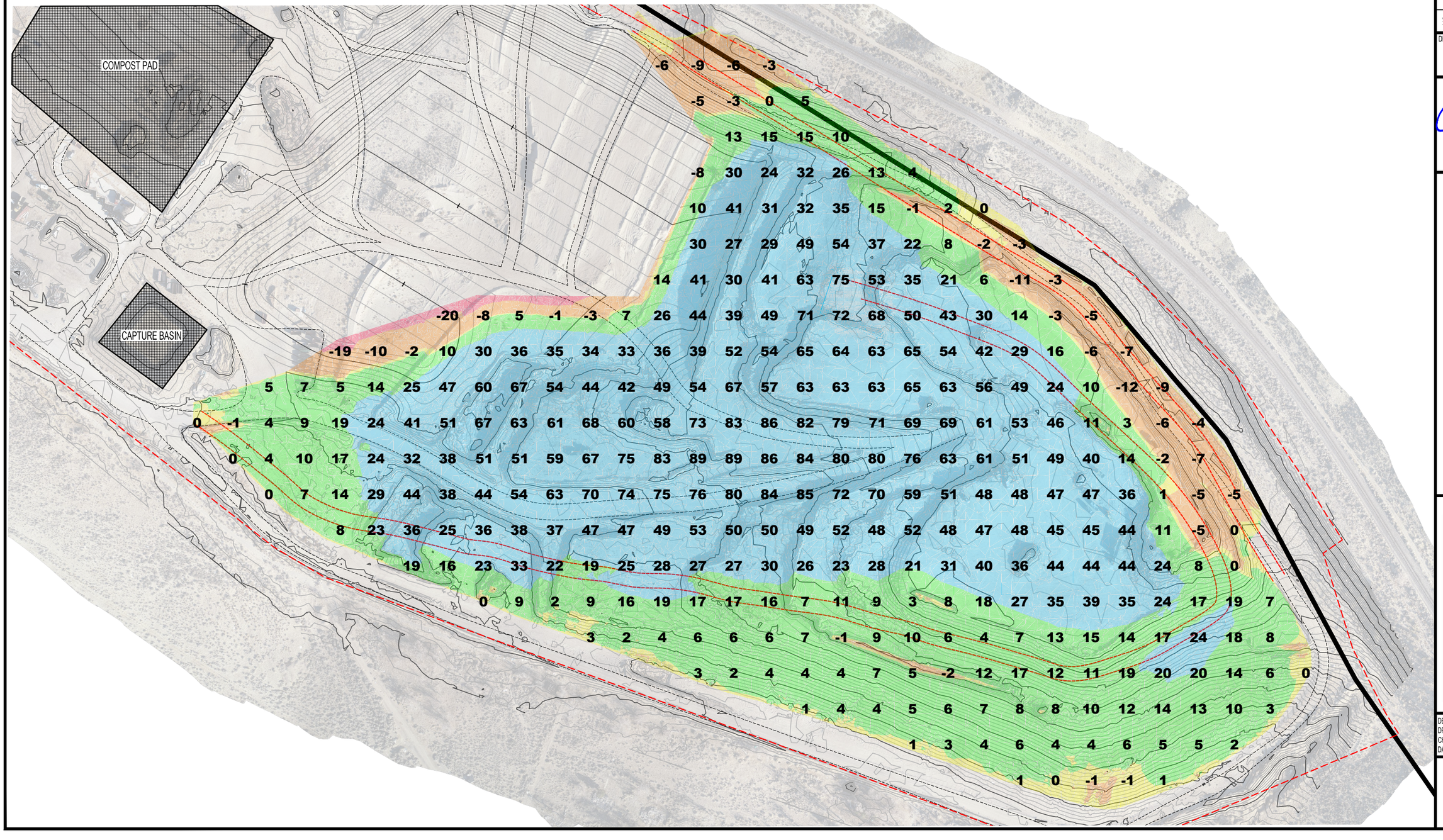
BAUER LANDFILL FACILITY

200 0 100 200

HORIZ: 1" = 200'

LEGEND

> 20 FT. CUT TO GRADE		PR SERVICE ROAD	
< 20 FT. CUT TO GRADE		EX SERVICE ROAD	
WITHIN 1 FT OF GRADE		EX (W/ PR BORROW) MAJOR CONTOUR	5010
< 20 FT. FILL TO GRADE		EX (W/ PR BORROW) MINOR CONTOUR	5002
> 20 FT. FILL TO GRADE		NOTABLE FACILITY FEATURE	
		UNEV PIPELINE (APPROXIMATE)	



NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

REGISTERED PROFESSIONAL ENGINEER — No. 388[illegible] — CHET A. HOVEY — 4-12-21 — STATE OF UTAH

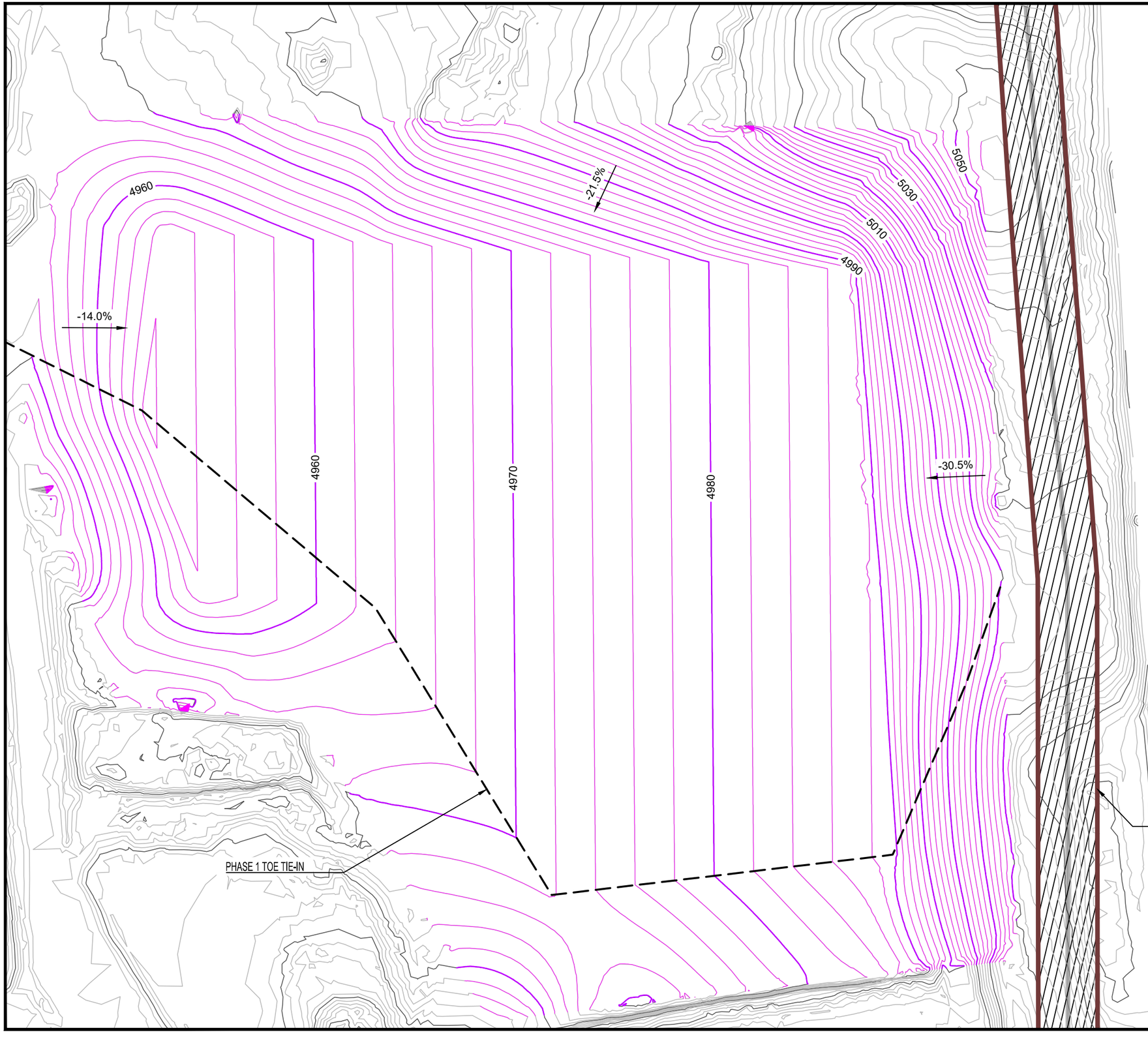
PHASE 1 - CUT/FILL

BAUER LANDFILL FACILITY
TOOELE COUNTY, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: CH
DRAWN: TL
CHECKED: CH
DATE: 7/28/21

F-2



PHASE 1 - BORROW

BAUER LANDFILL FACILITY

100 0 50 100

HORIZ: 1" = 100'

LEGEND

- UNEV PIPELINE ROW
- EX ROADWAY
- DISPOSAL CELL TIE-IN
- PR MAJOR CONTOUR — 5010
- PR MINOR CONTOUR — 5002
- EX MAJOR CONTOUR — 5010
- EX MINOR CONTOUR — 5002

BORROW PIT STATISTICS

TOTAL VOLUME FROM CUT (CY): 550,400

DISPOSAL VOLUME (CY): 440,320 [198,144 TONS]

REQUIRED COVER MATERIAL(FOR ALL AREAS): 518,080 CY

PROVIDED COVER MATERIAL: 550,400 CY

SURPLUS COVER: 32,320 CY

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH
0 1/2 1

REGISTERED PROFESSIONAL ENGINEER
No. 388[illegible]
CHET A. HOVEY
4-12-21
STATE OF UTAH

PHASE 1 - BORROW
BAUER LANDFILL FACILITY
TOOELE COUNTY, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN:	CH
DRAWN:	TL
CHECKED:	CH
DATE:	7/28/21

F-3

BORROW AREA - CUT/FILL

BAUER LANDFILL FACILITY

HORIZ: 1" = 100'

100 0 50 100

LEGEND

- UNEV PIPELINE ROW
- EX ROADWAY
- EX MAJOR CONTOUR —5010—
- EX MINOR CONTOUR —5002—
- > 20 FT. CUT TO GRADE
- < 20 FT. CUT TO GRADE
- WITHIN 1 FT OF GRADE
- FILL TO GRADE

BORROW PIT STATISTICS

TOTAL VOLUME FROM CUT (CY): 550,400

DISPOSAL VOLUME (CY): 440,320 [198,144 TONS]

REQUIRED COVER MATERIAL(FOR ALL AREAS): 518,080 CY

PROVIDED COVER MATERIAL: 550,400 CY

SURPLUS COVER: 32,320 CY

UNEV PIPELINE R.O.W (APPROXIMATE)

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

REGISTERED PROFESSIONAL ENGINEER
NO. 3856
CHET A. HOVEY
4-12-21
STATE OF UTAH

BORROW AREA - CUT/FILL

BAUER LANDFILL FACILITY
TOOELE COUNTY, UTAH

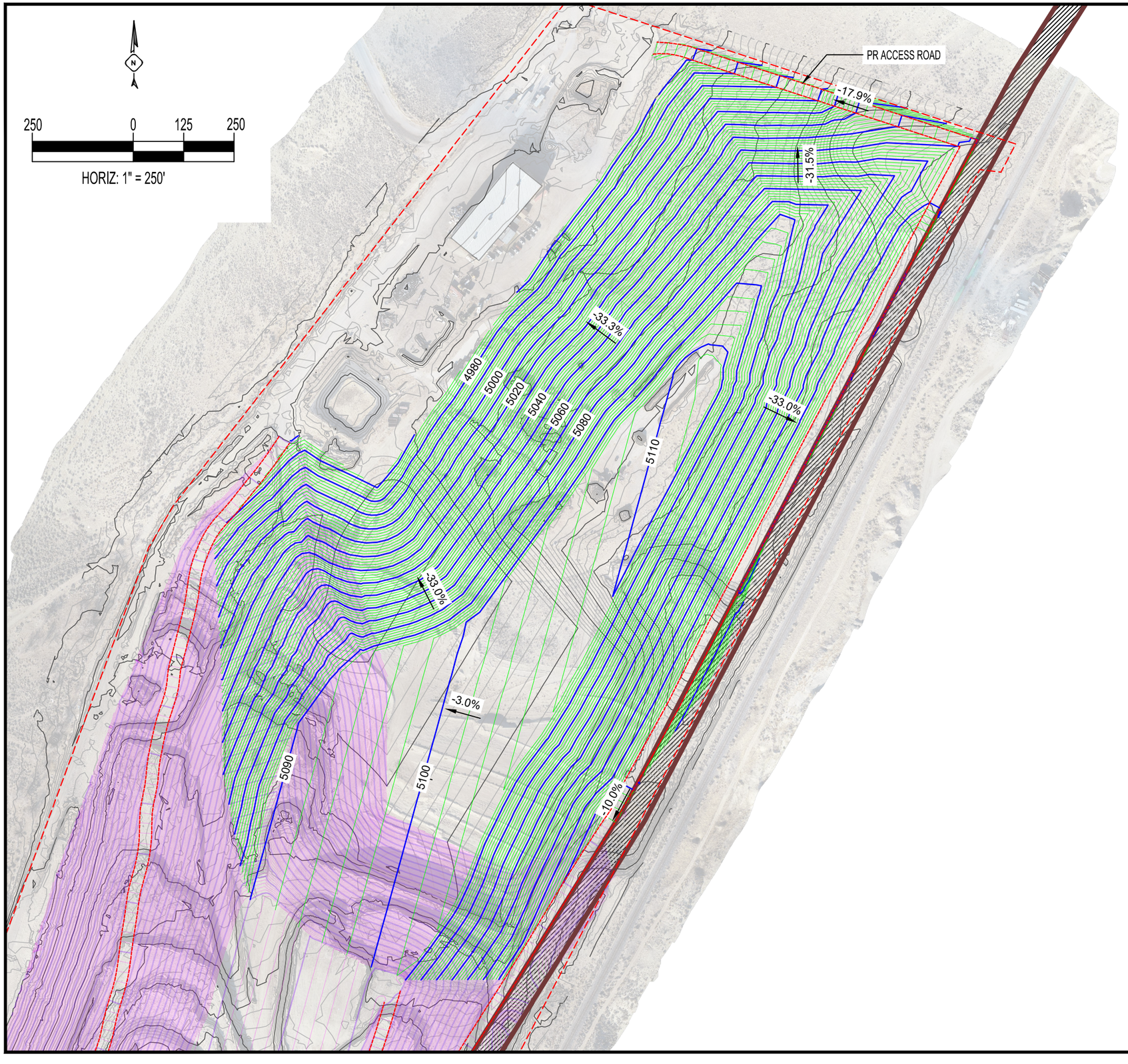
ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: CH
DRAWN: TL
CHECKED: CH
DATE: 7/28/21

F-4

PHASE 2 - GRADING PLAN

BAUER LANDFILL FACILITY



LEGEND

UNEV PIPELINE ROW	
NOTABLE FACILITY FEATURE	
EX SERVICE ROAD	
PR SERVICE ROAD	
PHASE 2 MAJOR CONTOUR	5010
PHASE 2 MINOR CONTOUR	5002
PHASE 1 MAJOR CONTOUR	5010
PHASE 1 MINOR CONTOUR	5002
EX (W/ PR BORROW) MAJOR CONTOUR	5010
EX (W/ PR BORROW) MINOR CONTOUR	5002

STATISTICS

PHASE 2

TOTAL VOLUME (CY): 5,892,000
DISPOSAL VOLUME (CY): 4,713,600 [2,121,120 TONS]
COVER VOLUME (CY): 1,178,400 CY [530,280 TONS]

ASSUMPTIONS

WASTE DENSITY: 900 PCY (0.45 TONS PER CUBIC YARD)

GENERAL NOTES

1. **SHOWN UNEV R.O.W LOCATION IS APPROXIMATE**

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH
0 1/2 1

REGISTERED PROFESSIONAL ENGINEER
No. 388[illegible]
CHET A. HOVEY
4-12-21
STATE OF UTAH

PHASE 2 - GRADING PLAN
BAUER LANDFILL FACILITY
TOOELE COUNTY, UTAH

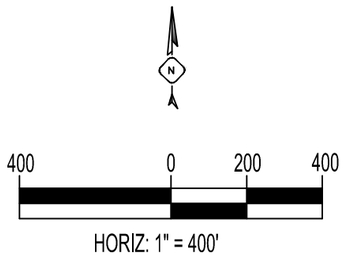
ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

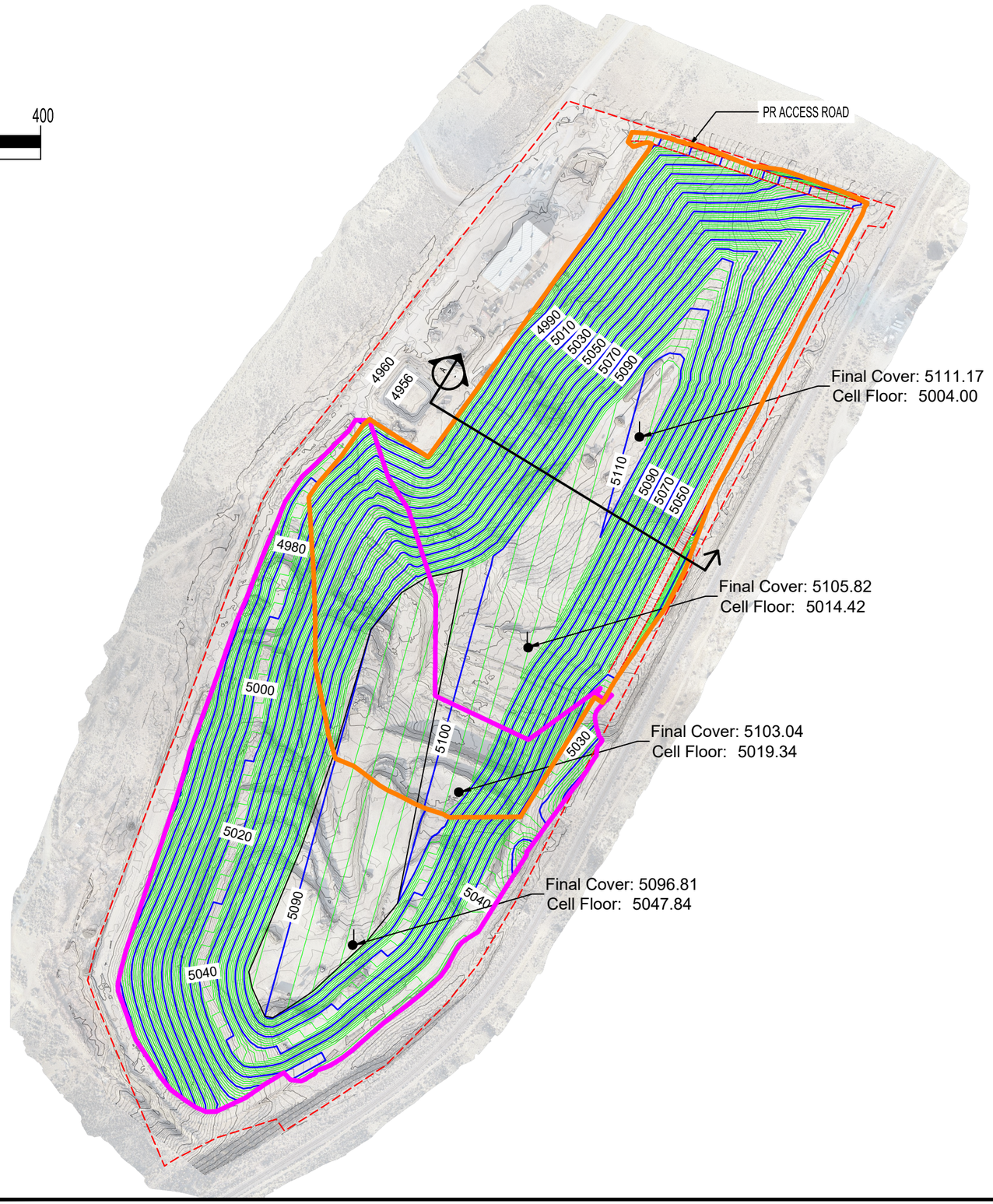
DESIGN:	CH
DRAWN:	TL
CHECKED:	CH
DATE:	7/28/21

F-5

PHASES 2 & 1 - FULL DEVELOPMENT

BAUER LANDFILL FACILITY





LEGEND

PR MAJOR CONTOUR	5010
PR MINOR CONTOUR	5002
EX (W/ PR BORROW) MAJOR CONTOUR	5010
EX (W/ PR BORROW) MINOR CONTOUR	5002
PHASE 1	
PHASE 2	

STATISTICS

FULL UTILIZATION

TOTAL VOLUME (CY): 7,932,000
DISPOSAL VOLUME (CY): 6,345,600 [2,855,520 TONS]
COVER VOLUME (CY): 1,586,400 CY [713,880 TONS]

PHASE 2 (NORTHEAST)

TOTAL VOLUME (CY): 5,892,000
DISPOSAL VOLUME (CY): 4,713,600 [2,121,120 TONS]
COVER VOLUME (CY): 1,178,400 CY [530,280 TONS]

PHASE 1 (SOUTHWEST)

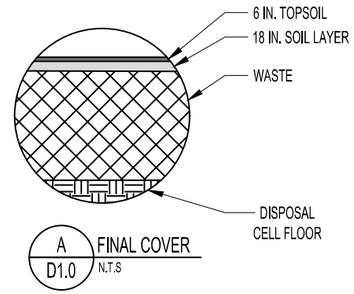
TOTAL VOLUME (CY): 2,040,000
DISPOSAL VOLUME (CY): 1,632,000 [734,400 TONS]
COVER VOLUME (CY): 408,000 [183,600 TONS]

BORROW

TOTAL VOLUME FROM CUT (CY): 550,400
DISPOSAL VOLUME (CY): 440,320 [198,144 TONS]
REQUIRED COVER MATERIAL(FOR ALL AREAS): 518,080 CY
PROVIDED COVER MATERIAL: 550,400 CY
SURPLUS COVER: 32,320 CY

ASSUMPTIONS

WASTE DENSITY: 900 PCY (0.45 TONS PER CUBIC YARD)



A / D1.0 FINAL COVER
N.T.S

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH
0 1/2 1

LICENSED PROFESSIONAL ENGINEER
NO. 388600
CHET A. HOVEY
4-12-21
STATE OF UTAH

PHASES 2 & 1 - FULL DEVELOPMENT
BAUER LANDFILL FACILITY
TOOELE COUNTY, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: CH
DRAWN: TL
CHECKED: CH
DATE: 7/28/21

F -6

Facility Life Projection

Year	C&D (cumulative tons at 3% annual growth)	C&D (tons/day)	C&D Disposed Annual Volume (CY)	C&D Phase 1 (CY)	C&D Phase 2 (CY)
2020	28,000	107	93,333	93,333	
2021	28,840	111	96,133	189,467	
2022	29,705	114	99,017	288,484	
2023	30,596	117	101,988	390,472	
2024	31,514	121	105,047	495,519	
2025	32,460	125	108,199	603,718	
2026	33,433	128	111,445	715,163	
2027	34,436	132	114,788	829,951	
2028	35,470	136	118,232	948,183	
2029	36,534	140	121,779	1,069,962	
2030	37,630	144	125,432	1,195,394	
2031	38,759	149	129,195	1,324,589	
2032	39,921	153	133,071	1,457,660	
2033	41,119	158	137,063	1,594,724	
2034	42,353	162	141,175	1,632,000	
2035	43,623	167	145,410		103,899
2036	44,932	172	149,773		253,671
2037	46,280	178	154,266		407,937
2038	47,668	183	158,894		566,831
2039	49,098	188	163,661		730,491
2040	50,571	194	168,570		899,062
2041	52,088	200	173,627		1,072,689
2042	53,651	206	178,836		1,251,526
2043	55,260	212	184,201		1,435,727
2044	56,918	218	189,727		1,625,454
2045	58,626	225	195,419		1,820,874
2046	60,385	232	31,562		1,852,436
2047	62,196	239	207,320		2,059,756
2048	64,062	246	213,540		2,273,296
2049	65,984	253	219,946		2,493,242
2050	67,963	261	226,544		2,719,786
2051	70,002	269	233,341		2,953,127
2052	72,102	277	240,341		3,193,468
2053	74,265	285	247,551		3,441,020
2054	76,493	293	254,978		3,695,997
2055	78,788	302	262,627		3,958,625
2056	81,152	311	270,506		4,229,131
2057	83,586	321	31,563		4,260,694
2058	86,094	330	286,980		4,547,673
2059	88,677	340	295,589		4,843,263
2060	91,337	350	304,457		5,147,719
2061	94,077	361	313,591		5,461,310
2062	96,899	372	322,998		5,784,308
2063	99,806	383	332,688		6,116,997
2064	102,801	394	228,603		6,345,600

Attachment #7

Financial Assurance Escrow Agreement

Appendix J – Financial Assurance

1. Escrow Agreement Form

ESCROW AGREEMENT FORM

I. SUMMARY UPTIF Account # 7358

A. Parties to the Agreement:

1. Depositor: Tooele County (the "Entity")
Address: 47 South Main
Tooele, Utah
84074

Contact: Robert Warner Tel. No. (435) 833-9520
Tel. No.

2. State Agency: Utah Division of Solid & Hazardous Waste (the "State')
Address: P.O. Box 144880
Salt Lake City, Utah 84114-4880

Contact: Ralph Bohn, Section Mgr. Tel. No. 801-536-0200
Tel. No.
Tel. No.

3. Escrow Agent: Utah State Treasurer (the "Treasurer")
215 State Capitol
Salt Lake City, Utah 84114

Contact: Jason Nielsen, Financial Manager
Stephanie Baldes, Accountant

Telephone: (801)538-1453 Telefax: (801)538-1465 Toll free: 800-395-7665

B. Deposit Amount(s):

1. Principal amount $ 412,000 (the "Proceeds")

2. Additional amount(s), if any:

$ None From:
$ From:
$ From:

C. Authorizing Resolution:

(the"Instrument")

D. Project Description:
Tooele County Solid Waste Facilites
(the"Project")

This Summary is an integral part of the Escrow Agreement

II. AGREEMENT

A. The undersigned hereby deliver to the Treasurer, the Proceeds and Additional amount(s) to be held and disposed of by the Treasurer in accordance with the duties, instructions, and upon the terms and conditions hereinafter set forth in this Escrow Agreement to which the undersigned hereby agree:

1. For purposes of this Escrow Agreement and this Escrow Agreement only:

   (a) The Treasurer shall not incur any liability in acting upon any written authorization and request delivered hereunder and believed by the Treasurer to be genuine and to be signed by the proper parties.

   (b) The Treasurer may consult with legal counsel in the event of any dispute or question as to the construction of the Treasurer's duties hereunder and shall not be held to any liability for acting in accordance with advice so received.

   (c) The Treasurer shall have a first lien on the moneys held by it hereunder for its compensation and for any costs, liability or expense or counsel fees it may incur.

2. In the event of any disagreement between the undersigned or any of them, and/or any other person, resulting in adverse claims and demands being made in connection with or for any moneys involved herein or affected hereby, the Treasurer shall be entitled at its option to refuse to comply with any such claim or demand, so long as such disagreement shall continue, and in so refusing the Treasurer may refrain from making any delivery or other disposition of any moneys involved herein or affected hereby and in so doing the Treasurer shall not be or become liable to the undersigned or any of them or to any person or party for its failure or refusal to comply with such conflicting or adverse demands, and the Treasurer shall be entitled to continue so to refrain and refuse so to act until:

   (a) The rights of the adverse claimants have been finally adjudicated in a court assuming and having jurisdiction of the parties and the moneys involved herein or affected hereby; and/or

   (b) All differences shall have been adjusted by agreement and the Treasurer shall have been notified thereof in writing signed by all of the persons interested.

3. The fees for the usual services of the Treasurer under the terms of this Escrow agreement are set forth in the schedule attached hereto as **Exhibit A**. It is agreed that additional compensation shall be paid to the Treasurer for any additional or extraordinary service it may be requested to render hereunder, and the Treasurer shall be reimbursed for any out-of-pocket expenses (including, without limitation, fees of counsel) reasonably incurred in connection with additional or extraordinary services.

4. The Entity and the State hereby agree that the deposit of the Proceeds shall constitute compliance with applicable deposit and investment provisions of the Instrument.

5. The duties of the Treasurer under the terms of this Escrow Agreement are as follows:

   (a) The Treasurer shall receive into a separate fund (the "Escrow Account") Proceeds and any additional amounts to be used in connection with the Project.

   (b) The Treasurer shall reimburse Entity in amounts authorized in writing by the Entity and the State.

   (c) Each authorization must be signed by one official form both the Entity and the State, except as provided in (i)of this section, and shall be substantially the same as the form attached as Exhibit B. On behalf of the Entity, the written authorization and request shall be signed by any one of the officials of the Entity identified in Section I.A. 1. above. On behalf of the State, the written authorization and request shall be signed by any one of the officials of the State identified in Section I.A.2. above. The Treasurer assumes no responsibility for expenditure of moneys paid out of the Escrow Account pursuant to a

written authorization and request properly signed and delivered the Treasurer as provided herein.

(i)

If the Entity fails to provide closure, post-closure, or corrective action of the solid waste management facility as required by the *Utah Solid Waste Permitting and Management Rules* and the Entity's solid waste disposal permit, the Executive Secretary will issue an order to close under the authority of Section 19-6-107(7) of the Utah Solid and Hazardous Waste Act. Upon completion of the Administrative process, including the Entity's right to contest and appeal the administrative action, the State may independently request, in writing, reimbursement to a State-approved and authorized third party for the costs related to the third party's activities for closure, post-closure or corrective actions at the facility.

(d) If a written authorization and request indicates that an amount (the "Retained Amount") payable to a Provider is to be held for retainage pending completion of the Project or the lapse of time, the Treasurer shall segregate such amount and shall invest the Retained Amount in an interest-bearing account (the "Separate Account"), the interest on which shall accrue for the benefit of the Provider. The Retained Amount and all accrued interest thereon shall be disbursed by the Treasurer in the same manner as provided in paragraph 5(b) hereof. All fees charged or incurred by the Treasurer relating to the establishment, investment and disbursement of the Separate Account shall be borne solely by the Provider and may be withheld by the Treasurer from the Separate Account prior to the disbursement thereof; provided, however, that if such fees are borne by the Separate Account, and if the interest earned on the Separate Account is less than the amount of such fees, then the fees withheld from such Separate Account shall not exceed the interest earned and the balance of such fees shall be paid by the Entity.

(e) The funds deposited by the parties hereto in the Escrow Fund and in any Separate Account shall be invested by the Treasurer in the Utah Public Treasurers' Investment Fund established by Section 51-7-5 of the Utah Code. All interest earned on moneys held in the Escrow Account shall be retained therein and disbursed as provided herein.

(f) The Treasurer shall report at least monthly concerning the receipts, disbursements and status of the Escrow Account. The reports shall be mailed to the Entity and to the State at their respective addresses as shown in Section I.A. above. Notification of changes of address, if any, shall be in writing and mailed to the parties at their respective addresses as shown in Section I.A. above.

(g) This Escrow Agreement will be terminated after payment of the fees and out-of-pocket expenses of the Treasurer, and upon liquidation of the Escrow Account as provided herein. This Escrow Account, upon the earlier to occur of:

(i) receipt by the Treasurer of a written authorization and request, signed as provided in paragraph 5(c) hereof, stating that the acquisition, construction, improvement and extension of the Project is complete, that all obligations and costs in connection with the Project which are payable out of the Escrow Account have been paid and discharged, and that the Treasurer is authorized and directed to transfer all moneys in the Escrow Fund to the Entity or such other disposition as may be agreed by the State and the Entity; or

(ii) receipt by the Treasurer of a written certificate of the State, signed by the appropriate representatives thereof as identified in paragraph 5(c) hereof, stating that at least ___months have expired from the date of this Agreement and that all remaining moneys in the Escrow Account are to be transferred to the State as a prepayment on the Bond purchased by the State or such other disposition as may be specified by the State.

6. This Agreement may be modified or amended only by a written Amendment attached to this Agreement and signed by the parties to this Agreement.

Entity: Tooele County Solid Waste Facilities

By: _____

Title: Solid Waste Director

Date: 3/1/12

Attest and Countersign:

By: Colleen Johnson

Title: Chairman, Tooele County Commission

Date: 3/1/12

ATTEST:

_____

MARILYN K. GILLETTE
TOOELE COUNTY CLERK

COUNTY OF TOOELE
COUNTY CLERK
STATE OF UTAH

STATE: ~~Utah Division of Solid and Hazardous~~ Waste

By: _____

Title: Executive Secretary
Utah Solid & Hazardous Waste Control Board

Date: 3/14/12

Accepted:

~~Utah State Treasurer~~

By: _____

Title: State Treasurer

Date: Mar. 14, 2012

EXIIIBIT A

Fees due to State Treasurer
as Escrow Agent

Maximum annual fee is 10 basis points (one-tenth of one percent (.001)) applied to the average daily balance in each account. The fee is assessed monthly based on the actual number of days in the month divided by 360 days.

Minimum annual fee is zero.

The Treasurer intends to deduct the administrative fee from gross earnings of each account before crediting earnings to the account(s). The amount of such fees in not reflected on monthly statements to the Entity, and is payable only from gross earnings on the account(s).

Entity shall not be liable to the Treasurer for any other costs or expenses for usual services. Usual services include:

1. Acceptance of funds delivered for deposit.

2. Deposit of funds and issuance of Treasurer's Receipt.

3. Investment of all funds delivered to Treasurer.

4. Credit net interest earnings to designated account(s) on a monthly basis.

5. Reimburse entity for project costs pursuant to receipt of a written authorization and request properly signed and delivered to the Treasurer.

6. Prepare and deliver to Entity and State a monthly accounting showing all deposits, withdrawals, interest credits and rate, ending balance and average balance for each account.

Entity will be liable to the Treasurer for out-of-pocket expenses resulting from any additional or extraordinary service Treasurer is requested to render and reasonably incurs in connection with additional or extraordinary services.

EXHIBIT B -1

WRITTEN AUTHORIZATION ANS REQUEST FOR REIMBURSEMENT
FROM ESCROW FUND

TO: The Utah State Treasurer, as Escrow Agent (the "Treasurer").

DATE:

WRITTEN REQUEST NO.: _____

I, the undersigned authorized officer of _____, (the "Entity"), do hereby certify and request to the Treasurer as follows:

7. Pursuant to the provisions of the Escrow Agreement by and between the Entity, the State and the Treasurer dated _____,(the "Escrow Agreement"), the undersigned hereby authorizes and requests a reimbursement from the Escrow Account to pay the amounts shown on the attached Payment Schedule.

8. Each payment proposed to be made as set forth on the Payment Schedule has been incurred and is a proper charge against the Escrow Account.

9. To the extent that the payment of any item set forth on the Payment Schedule is for other than work, materials, equipment or supplies, in connection with this authorization and request, the undersigned certifies that each payment proposed to be made on the Payment Schedules is a proper charge against the Escrow Account, is a reasonable amount and has not been heretofore included in a prior Written Authorization and Request for Reimbursement for the Escrow Account.

10. This Written Authorization and Request, including the Payment Schedule attached hereto, shall be conclusive evidence of the facts and statements set forth herein.

11. A copy of this Written Authorization and Request is being kept on file in the official records of the Entity.

The terms used herein which are defined in the Escrow Agreement shall have the respective meanings therein assigned to them.

_____

By: _____

Title: _____

EXHIBIT B-2

I/we, the undersigned authorized officer(s) of the State, do hereby certify and request to the Treasurer as follows:

1. I/we have reviewed the foregoing statements of the authorized officer of the Entity attached hereto, and on behalf of the State approve the request for payment from the Escrow Fund made therein; provided that the State has not independently verified the statements of such authorized officer of the Entity attached hereto and makes no representations or certifications with respect thereto.

2. A copy of this Written Authorization and Request is being kept on file in the official records of the State.

The terms used herein shall have the same meanings assigned to them in the attached statements of the authorized officer of the Entity.

Dated the date appearing at the top of the attached statements of the authorized officer of the Entity.

STATE:

By: _____

Title: _____

Attachment #8

Transfer Station Plan of Operation

Appendix K – Transfer Station Plan of Operations

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER TRANSFER STATION

GENERAL PLAN OF OPERATION

TOOELE COUNTY
47 South Main
Tooele, Utah 84074
435-833-9520

January 2013

ADVANCED ENVIRONMENTAL ENGINEERING
1975 North Main St., Suite 3 • Layton, UT 84041
Tel: 801-773-3155 • Fax: 801-773-3156

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER TRANSFER STATION

GENERAL PLAN OF OPERATION

Prepared for:

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

47 South Main

Tooele, Utah 84074

Prepared by:

ADVANCED ENVIRONMENTAL ENGINEERING

1975 North Main – Suite 3

Layton, Utah 84041

January 2013

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CHAPTER 1
PLAN OF OPERATION

1.1 INTRODUCTION

Tooele County is currently operating a Transfer Station at its solid waste facility site near Bauer, Utah. The Transfer Station is designed, constructed, and operated in accordance with applicable Federal and State laws and standards. In conjunction with these facilities, Tooele County operates a Compost Facility, Class IIIb Landfill (Closed), Class IV Landfill, Scale House, and Recycling Center. This General Plan of Operation (OP) has been prepared to satisfy standards established by the State of Utah Solid Waste Permitting and Management Rules (Rules), Section R315-313.

COMPOSTING FACILITY

CLOSED CLASS IIIb LANDFILL

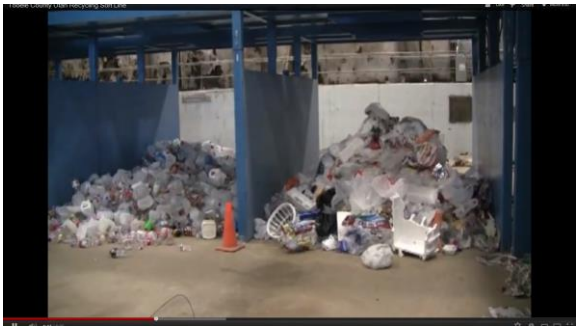
CLASS IV LANDFILL

SCALE HOUSE

RECYCLING FACILITY -Bailer

RECYCLING FACILITY – In floor Conveyor

RECYCLING FACILITY – Sort Line



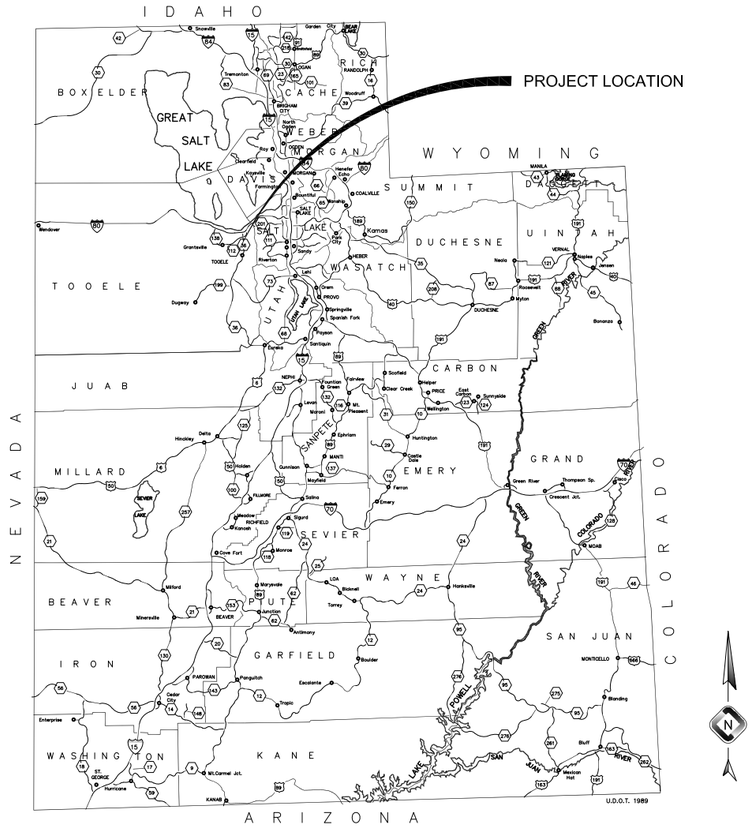
RECYCLING FACILITY –Product Storage

The site is located approximately six miles south of Tooele, Utah on the southwest flank of the Oquirrh Mountains as shown on Figure 1.1.

The Landfill Facility location is the site of a former sand and gravel pit, situated on Lake Bonneville shoreline deposits, sloping to the west toward the valley floor. The surficial soils are silty or sandy with scattered gravel.

The site is not located within 500 feet of any permanent residence, school, hospital, institution, office building, restaurant, church, wetlands, watercourses, or floodplains.

Presently, solid waste generated in Tooele County is transported to the site and sorted. Construction and demolition (C&D) waste and all green waste are composted or disposed of on site in the Class IV Landfill. Recyclable materials are sorted for shipment. Portions of the municipal waste, which are not



PROJECT LOCATION

LOCATION MAP

N.T.S.

LEGEND

TOWN/ CITY LIMITS

RAIL ROAD TRACKS

ROADS

N

SCALE

2000 0 1000 2000

HORIZ: 1" = 2000'

MAP BASED ON USGS 7.5 MINUTE QUADRANGLE MAPS. ZONING INFORMATION TAKEN FROM COUNTY ZONING ORDINANCES. MAPPED AUGUST 1993, REVISED JANUARY 2004

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL TRANSFER STATION
GENERAL PLAN OF OPERATION
VICINITY MAP

ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJS
DRAWN: JJS
CHECKED: CAH
DATE: 4/2009

FIGURE:
1.1

compostable or recyclable, are shipped for disposal to Wasatch Regional Landfill also located in Tooele County, Utah.

Table 1.1 below shows the distribution of waste at the Bauer Landfill Facility.

TABLE 1.1

DISTRIBUTION OF WASTE

Year	**Delivered Waste** (tons)	**Annual Increase** (percent) [1]	**Diverted Waste** (tons) [2]	**Annual Increase** (percent) [1]	**Disposed Class IV Waste** (tons)	**Annual Increase** (percent) [1]
2006	94,669	9.0	64,391	12.3	30,278	4.4
2007	117,088	12.6	65,836	11.4	48,299	12.8
2008	49,989	1.9	25,586	-2.1	24,403	0.9
2009	56,899	4.3	34,329	0.5	22,570	0.1
2010	61,734	4.8	36,650	1.1	24,360	0.7
2011	**60,132**	**4.6**	**35,819**	**1.0**	**24,312**	**0.7**

[1] Annual increase was calculated using 2001 data.

[2] Diversions include Transfer Station, Composting, and Recycling.

A breakdown of the Diverted Waste for the year of 2011is as follows:

Transfer Station	25,392 tons
Compost Facility	5,110 tons
Recycling Facility	5,317 tons
Total	**35,819 tons**

1.2 PURPOSE

The purpose of this OP is to characterize the operation of the Transfer Station for permitting and management purposes. Solid Waste Management is a dynamic system that undergoes continual development. Changes may occur in quantities of disposed materials, location of the transfer station, demographics of the service area, and administrative and regulatory requirements. These changes would be accomplished to conserve landfill space and protect human health and the environment. The intent of

this OP is to provide an accurate description of the daily operations and procedures while allowing for modifications that may be required to compensate for operational changes.

1.3 FACILITY DESCRIPTION

The location of the Transfer Station in relation to the other operations at the Bauer Landfill Facility is shown on Figure 1.2. The Transfer Station is located west of the Compost Facility. The Transfer Station was built in accordance to the Rules. Storm water run-off for the Transfer Station is routed down through drainage gutters and down spouts to the ground level that is graded to flow run-off away from the facility. The ground around the facility is graded such that any run-on will not enter the facility during any rainfall events.

1.3.1 Fencing

The Transfer Station is located within the Bauer Landfill Facility property, which is enclosed with a perimeter fencing.

1.3.2 Screening

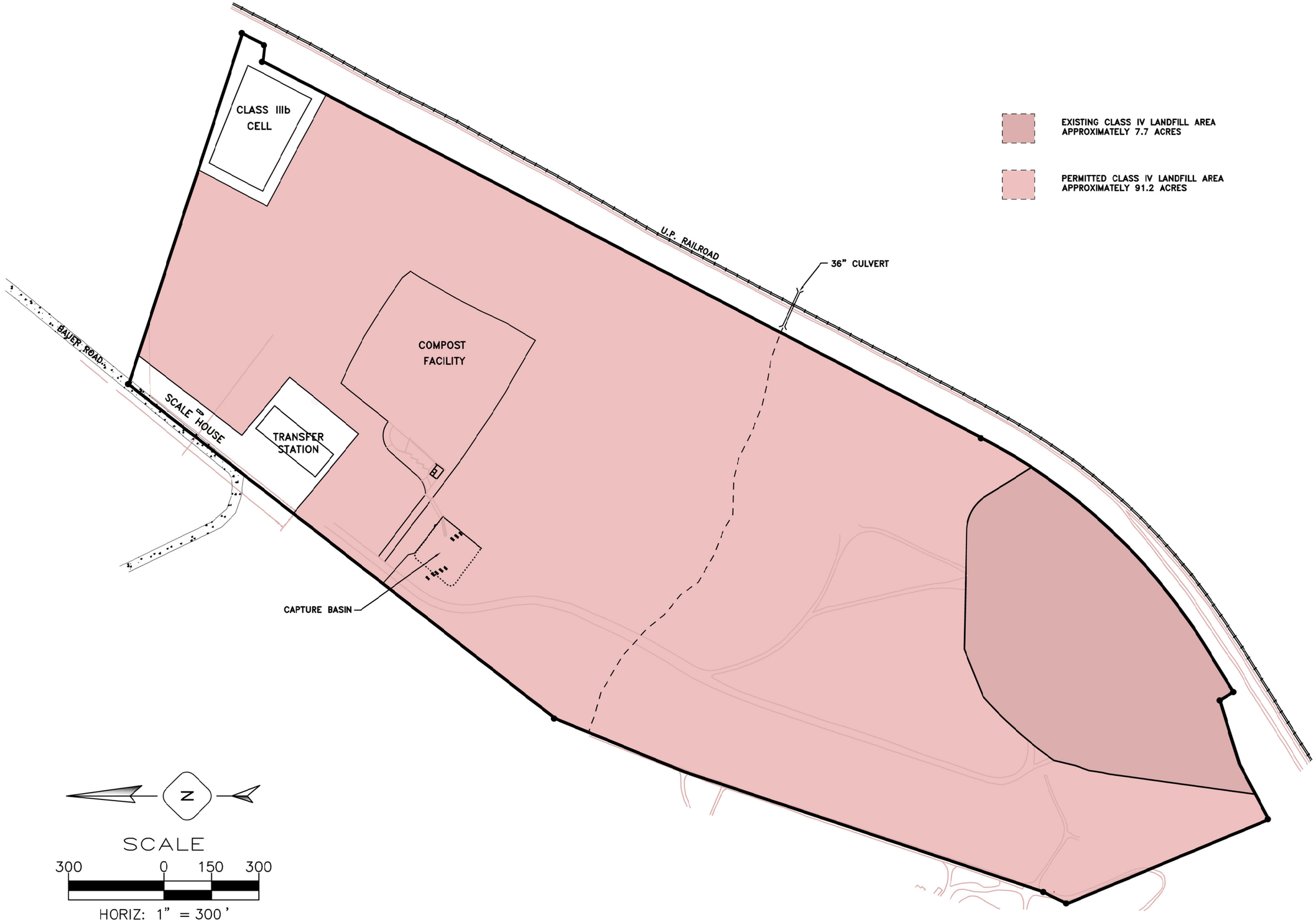
The Transfer Station operations are screened from public view by the metal building it utilized for operations.

1.3.3 Tipping Floor protection

The Transfer Station was constructed per the design and operation requirements of the rules. The Transfer Station was constructed with a concrete floor to protect ground water.

1.3.4 Buffer Zone

The Transfer Stations is located within the Bauer Landfill Facility and placed in a location that allows a buffer area around the entire structure.



DRAWING SOURCE: AQUA ENGINEERING

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DCES NOT MEASURE 1 INCH
0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE
BAUER LANDFILL RECYCLING AND COMPOST FACILITY
GENERAL PLAN OF OPERATION
FACILITIES MAP

ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJS
DRAWN: JJS
CHECKED: CAH
DATE: 3'2009

FIGURE:
1.2
1-6

1.4 FACILITY LEGAL DESCRIPTION

The site is located in Section 13, Township 4 South, Range 5 West, Salt Lake Base and Meridian and is more particularly described as follows:

Beginning at a point North 28° 23’ 03” East 4,438.14 from the common corner to sections 13, 14, 23, and 24 and considering the South line of the Southeast quarter of Section 14 to bear South 88° 55’ 37” West; thence North 37° 33’ 57” East 1,709.54 feet; thence South 72° 34’ 43” East 1,164.95 feet to the West right of way line of the Union Pacific Railroad; thence along said right of way line the following courses, South 27° 04’ 36” West 78.92 feet; thence North 83° 05’ 55” West 53.19 feet; thence South 27° 04’ 36” West 2,562.27 feet; thence 978.55 feet along a curve to the right having a radius of 1823.09 feet and along a chord of which bears South 42° 27’ 13” West 966.84 feet; thence South 57° 49’ 50” West 167.41 feet, thence North 32° 08’ 16” West 50 feet; thence leaving said right of way North 15° 19’ 21” East 606.74 feet; thence West 425.00 feet; thence North 21° 21’ 18” East 1633.03 feet; thence South 89° 01’ 49” West 407.88 feet more or less to the point of beginning. Subject to all easements and rights of way of record.

1.5 RUN-ON/RUN-OFF ANALYSIS

For permitting purposes, a drainage analysis was completed for the Bauer Landfill Facility. The Transfer Station is located in one of the drainage zones established for the analysis as identified on Figure 1.3. This drainage zone is isolated from upstream run-off by an elevated railroad grade to the east, which routes the run-off south along the tracks. The peak run-off flow generated from the 25-year 24-hour storm event was determined for this drainage zone by applying the U.S. Soil Conservation Service Technical Release Number 55 (SCS TR-55) method. For the analysis, the drainage zone was divided into a developed subzone and an undeveloped subzone because run-off east of the asphalt pad is diverted around the pad with the use of channels and berms. The developed subzone includes the compost pad and the capture basin. The undeveloped subzone is the remaining area east of the compost pad.

The volume of water generated from the developed subzone for a 25-year 24-hour storm event was calculated to check the maximum operating water level in the capture basin. The peak discharge from

TO HWY 36

TO TOOELE CITY

BAUER ROAD

SCALE HOUSE

TRANSFER STATION

CLASS IIIb
MONO-FILL
CELL

COMPOST
FACILITY

DRAINAGE ZONE

CAPTURE
BASIN

BAUER
LANDFILL

U.P. RAIL ROAD

HIGHWAY 36

TO STOCKTON

LEGEND

TOWN/ CITY LIMITS

RAIL ROAD TRACKS

ROADS

N

SCALE

500 0 250 500

HORIZ: 1" = 500 '

MAP BASED ON USGS 7.5 MINUTE QUADRANGLE MAPS. ZONING INFORMATION TAKEN FROM COUNTY ZONING ORDINANCES. MAPPED AUGUST 1993, REVISED JANUARY 2004

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL TRANSFER STATION
GENERAL PLAN OF OPERATION
SITE DRAINAGE MAP

ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJS
DRAWN: JJS
CHECKED: CAH
DATE: 4/2009

FIGURE:
1.3
1-8

the undeveloped subzone was used to calculate the required channel size to divert the run-off. Table 1.2 shows the results of the analysis. Appendix A contains printouts from the hydrologic analysis.

TABLE 1.2

DRAINAGE ANALYSIS RESULTS

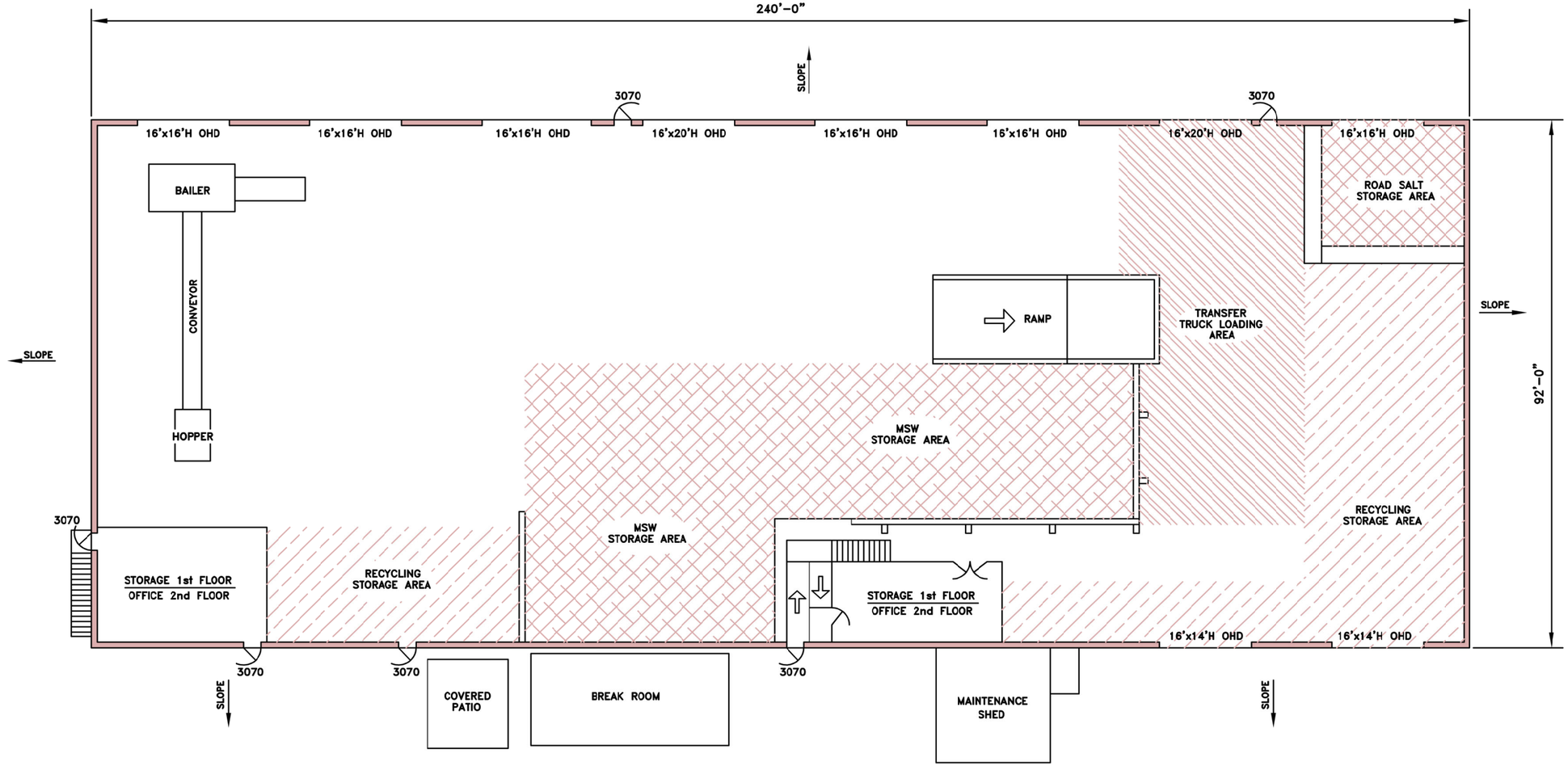
Parcel	**Area** (acres)	**Time of Concentration** (hours)	**Peak Discharge** (cfs)	**Runoff Q** (in)	**Volume** (ft^3)
Developed	5.7	0.05	21.7	2.41	49,830
Undeveloped	6.6	0.27	2.8	0.49	11,641

The results indicate that the capture basin water surface should remain 5 feet below the rim to satisfy the storage requirements. Currently the normal working water surface is maintained approximately 8 feet below the rim elevation and could be adjusted accordingly.

The run-off generated from the undeveloped subzone is diverted and routed around the compost pad and capture basin through strategically placed channels and berms. The required size of trapezoidal channel necessary to divert the run-off is 8”deep by 24” wide with 2.5H: 1V side slopes. This size criterion was then used to check the existing berms and channels for capacity requirements. The current run-off diverting mechanisms are expected to meet the capacity requirements to divert the 25-year 24-hour storm event. Run-on to the Transfer Station is minimized due to positive discharge away from the structure.

1.6 OPERATIONAL PROCEDURES

Figure 1.4 shows the current layout of the Transfer Station. The Transfer Station main office is located centrally on the east side of the Transfer Facility, a second office is located in the south east corner of the facility and truck loading is located on the north end of the facility with MSW storage centrally located in the east side near the main office. The road salt storage is located in the north west corner of the facility.



TRANSFER STATION FLOOR PLAN

SCALE: 3/32" = 1'–0"

N

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL TRANSFER STATION

GENERAL PLAN OF OPERATION

TRANSFER STATION FLOOR PLAN

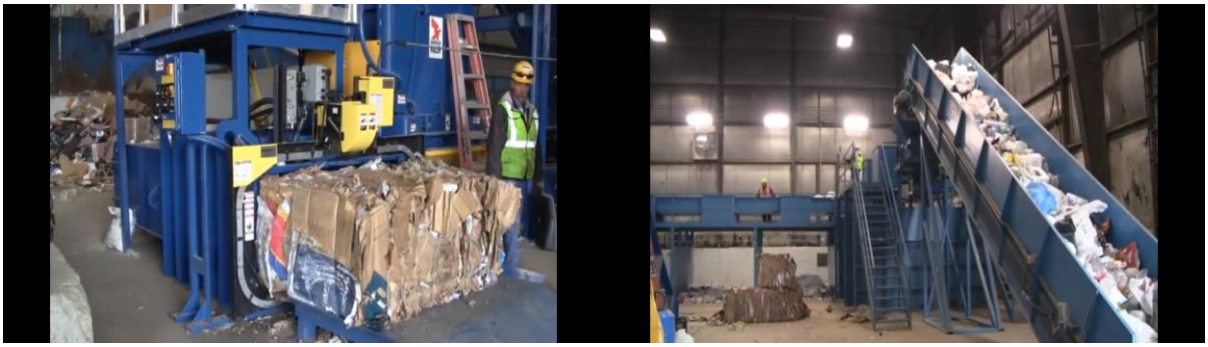
ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN:	JJS
DRAWN:	JJS
CHECKED:	CAH
DATE:	4/2009

FIGURE:

1.4

1.6.1 Recycling



Recycling areas are located at the Transfer Station and the public recycling center. A recycling Sort Line provides opportunities for the employees of the Transfer Station sort recyclable materials, which are later bailed and stockpiled for transportation. The public recycling center uses roll-off recycling dumpsters for sorting recyclable materials. Recycling contractors provide and maintain their own roll-off dumpsters on site. Typical recyclable materials that are bailed and sorted in the dumpsters include cardboard, metals, white paper, carpet pad, foam rubber, tires, and batteries. Stockpiled recyclable materials are typically stored on site for six months or less.

1.6.2 Waste Removal

Once all the recyclables are taken from the waste stream, the remaining waste is loaded onto long haul trucks and transported to a disposal facility.

1.6.3 Equipment

The following equipment is currently stationed and used at the landfill to spread or compact waste, control dust, load waste, and perform other facility operations.

1	Bailer	2	Tool Carriers
1	Roll-off Truck	1	Tub Grinder
2	Water Tanks	1	Trommel Screen
2	Dozers	1	Boom Truck
1	Scraper	2	End Dump Trucks

1	Roller	1	Fork lift
1	Grader	1	Skid Steer
3	Loaders		

Tooele County will maintain sufficient equipment to operate the Transfer Station.

1.7 ON-SITE LINES OF AUTHORITY

The Transfer Station is owned and operated by Tooele County. Daily operation of the Transfer Station and related facilities is under the direction of the Landfill Director. In the event of the Landfill Director's absence, a Senior Operator is the designate in charge of the landfill.

At the beginning of each working day, the Landfill Director is responsible for informing Operators of any upcoming changes in their normal responsibilities. The Landfill Director or Senior Operator is notified if unacceptable waste is detected. The Landfill Director or Senior Operator will then take action.

1.8 MONITORING AND INSPECTION SCHEDULE

The schedule for monitoring and inspection of the Transfer Station to ensure proper operation and maintenance is provided in the Table 1.3.

TABLE 1.3

MONITORING AND INSPECTION SCHEDULE

Inspection/Monitoring Activity	Frequency
Concrete tipping Floor	Monthly
Access Road Condition and Maintenance	During operation as needed
Fence Inspection and Maintenance	Monthly
Run-on	Following a significant storm event
Buffer Zone/ Litter Control	Weekly

Asphalt Apron	Monthly
Run-off from Building	Monthly
Equipment Maintenance	Per manufacturers recommendations

1.9 CONTINGENCY PLAN

The Contingency Plan is designed to minimize hazards to human health or the environment from any unplanned sudden or non-sudden discharge to air, soil, surface, or groundwater. The provisions of this plan would be carried out immediately upon an emergency situation or release, which could threaten human health or the environment. Emergency evacuation of the site may be necessary given the nature of the waste materials stored and processed at the site. Incidents caused by fire, explosion, or toxic vapor generation are always a concern when processing municipal solid waste.

1.9.1 On-Site Waste Handling

In an event, the transfer station were to become in accessible or inoperable, waste would be directed to the landfill without being processed at the Transfer Station.

1.9.2 Fire or Explosion

The primary means of fire control in the Transfer Station is to isolate hot or burning fuel source. In the event that a fire does erupt during operating hours, the burning material would be separated from the other materials and doused with water or smothered with site soils. This action would be supported, when necessary, by the mobilization of additional equipment owned and operated by Tooele County.

1.9.3 Explosive Gas Release

Under proper operating procedures, significant amounts of explosive gas are not expected. If significant amounts of explosive gas were being generated, the Landfill Director or Senior

Operator would be notified. The Landfill Director or Senior Operator would then take steps to remedy the problem, typically by removal of waste from the Transfer Station.

1.9.4 Failure of a Containment System

The concrete tipping floor and asphalt apron are visually inspected monthly. Should failure of these containment systems occur, the containment system would be repaired or replaced.

1.9.5 Dust Control Plan

Dust is controlled though the means of the enclosed facility and the ability to close openings such as doors in the event of the wind blowing.

1.9.6 Litter Control Plan

Litter is controlled through the means of an enclosed facility.

1.10 ALTERNATIVE WASTE HANDLING AND DISPOSAL PLAN

If problems were to occur that prevented the use of the Transfer Station, the materials would be either be stockpiled or sent directly to Wasatch Regional Landfill for disposal. In the event of a problem resulting in a complete shutdown of Wasatch Regional Landfill, materials would be redirected to the West Wendover and/or Elko Nevada Solid Waste Facilities.

1.11 PROCEDURES FOR CONTROLLING DISEASE VECTORS

Control of disease vectors in the Transfer Station is either by bailing or stockpiling recyclables within four days of placement on the tipping floor and removal of sorted waste on a timely manner.

1.12 PROCEDURES FOR EXCLUDING THE RECEIPT OF HAZARDOUS WASTE

A "Prohibited Waste" control program designed to detect and deter attempts to dispose of hazardous and other unacceptable waste is presently implemented at the Tooele County Solid Waste Management Facility. The program is designed to protect the health and safety of employees, customers, and the general public, as well as protect against contamination of the environment. The Landfill Director is in charge of hazardous waste activities.

The site is open for public and private disposal. Signs are posted near the site entrance clearly indicating (1) the types of waste to be accepted; (2) that hazardous waste is to be excluded; and (3) the penalty for illegal disposal. All vehicles delivering waste to the site are stopped at the Scale House. Scale House personnel, to the extent possible; visually inspect incoming waste for hazardous materials. Any vehicle suspected of carrying unacceptable materials (liquid waste, sludge, or hazardous waste) is prevented from entering the disposal site area. Vehicles carrying hazardous materials are required to exit the site without tipping their loads. If a load contains or was suspected of containing hazardous materials, the Landfill Director is notified and the following information recorded for future reference: date, name of hauler, and license plate number which is provided to Tooele County Health Department.

After the load has been visually inspected at the Scale House, the vehicle is directed to the appropriate discharge location. Facility personnel regularly inspect loads at the sites. If a discharged load contains hazardous material, the discharger is required to reload the material and remove it from the site. The discharger is then instructed on acceptable locations and methods for disposal and the local health department notified.

If the identity of discharger were unknown, the area where the hazardous material was discharged would be cordoned off. The hazardous material would be moved to a designated area for identification and preparation for proper disposal.

The Operators at the Transfer Station are responsible for identification and prohibition of excluded waste. All employees are trained in methods and techniques for spotting liquid waste,

drums, waste in sealed containers, red-bag waste, PCB waste, and waste, which exhibited unusual odors or markings. All such waste are excluded from the landfill facility and upon discovery, segregated from acceptable waste pending alternative disposal.

1.13 GENERAL TRAINING AND SAFETY PLAN

Each employee at the landfill facility is trained to have a working knowledge of the maintenance and operational techniques necessary to operate and maintain the landfill facility in a manner to preserve human health or safety and the environment. Training is accomplished through on-the-job training (OJT) and classroom training sessions. The Landfill Director, or a designated professional trainer, is in charge of directing the training programs. Initial training is completed within three months of employment followed by an annual review of basic waste management skills.

1.13.1 Training Schedule

The Landfill Director is required to take the SWANA Manager of Landfill Operations (MOLO) course. In addition, Operators are required to take one or both of the SWANA training courses: Landfill Operator Training, and Waste Screening. Continuing education efforts include the following:

Introductory Training

Synopsis of solid waste regulations, record keeping, and transporter requirements.

- Requirement: All Personnel
- Method: OJT
- Review: Quarterly

Policies and Procedures

Security, inspections and emergency response.

- Requirement: All Personnel
- Method: lecture/video course, OJT
- Review: Quarterly

Safety

Personal protection, hazardous waste recognition, hazardous material handling, emergency response and first aid.

- Requirement: All Personnel
- Method: Classroom/video course
- Review: Annual

A Safety Training meeting is held once a week taking a minimum of 15 minutes. Training documents would be kept with the OP for five years.

1.14 RECORD KEEPING AND REPORTING

The Landfill Director maintains the following operating records for the landfill:

- Records of inspection (Example Located in Appendix B)
- Records of training
- Annual and yearly reports

1.15 COSTS FOR CLOSURE

Final closure of the Transfer Station would be initiated within 120 days following receipt of the final load. Closure activities would include removal of all waste. Unfinished waste would be removed for disposal to the Wasatch Regional Landfill or transported for appropriate disposal. After removal of waste, the facility will be reclamated to allow for future use of the building. A "Statement of Fact" identifying use of the property for landfilling would be recorded with the

county recorder as part of the record of title and plat. Post closure activities would not be required. The estimated closure costs are shown in Table 1.4 on the next page.

TABLE 1.4

OPINION OF PROBABLE COSTS OF CLOSURE

Task	Quantity	Units	Unit Cost	Task Cost
CLOSURE				
Removal of Waste	75	TON	$35.00	$2,625
Building Reclamation	1	LS	$10,000	$10,000
			Total	**$12,625**

1.16 FINANCIAL ASSURANCE

Tooele County meets the financial assurance set forth in R315-309-2(3).

APPENDIX A

DRAINAGE ANALYSIS CALCULATIONS

Estimated Return Periods for Short Duration Precipitation
Inches

Station: Tooele Elevation: 4820
Latitude: 40˚ 32' Longitude: 112˚ 18'

Return Period (Years)	Duration									
	5 Min.	10 min.	15 Min.	30 Min.	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	0.11	0.18	0.22	0.31	0.39	0.49	0.59	0.83	1.05	1.27
2	0.14	0.22	0.28	0.39	0.49	0.61	0.73	1.02	1.28	1.55
5	0.19	0.29	0.37	0.51	0.65	0.8	0.94	1.3	1.62	1.95
10	0.23	0.36	0.45	0.62	0.79	0.96	1.11	1.51	1.86	2.23
25	0.27	0.42	0.54	0.74	0.94	1.14	1.32	1.79	2.21	2.64
50	0.31	0.48	0.61	0.85	1.07	1.29	1.49	2.01	2.47	2.95
100	0.34	0.53	0.67	0.92	1.17	1.41	1.64	2.22	2.73	3.27

Station: Trial Lake Elevation: 9800
Latitude: 40˚ 41' Longitude: 110˚ 58'

Return Period (Years)	Duration									
	5 Min.	10 min.	15 Min.	30 Min.	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	0.08	0.13	0.17	0.23	0.29	0.4	0.51	0.77	1.01	1.25
2	0.1	0.15	0.19	0.27	0.34	0.48	0.61	0.93	1.22	1.52
5	0.13	0.2	0.25	0.35	0.44	0.61	0.77	1.18	1.54	1.92
10	0.15	0.23	0.3	0.41	0.52	0.71	0.89	1.35	1.76	2.18
25	0.17	0.26	0.33	0.46	0.58	0.81	1.03	1.58	2.07	2.58
50	0.19	0.29	0.36	0.51	0.64	0.9	1.15	1.77	2.32	2.9
100	0.21	0.32	0.41	0.57	0.72	1.01	1.28	1.96	2.57	3.2

Time of Concentration
Undeveloped

Sheet Flow

Description	Undeveloped
Manning's N	0.1300
Flow Length	300.0000 ft
Two Yr, 24 hr Rainfall	1.5500 ft/ft
Land Slope	0.1070 fps
Computed Sheet flow time	> 0.2577 hrs

Shallow Concentrated Flow

Description	Undeveloped
Surface	Unpaved
Flow Length	170.0000 ft
Watercourse Slope	0.0765 ft/ft
Velocity	4.4626 fps
Computed Shallow flow time	> 0.0106 hrs

****

Total Time of Concentration ..... > 0.2683 hrs

****

Graphical Peak Discharge Method
Undeveloped

Given Input Data:

Description	Undeveloped
Rainfall distribution	Type II
Frequency	25 year
Rainfall, P (24-hours)	2.6400 in
Drainage area	0.0103 mi2
Runoff curve number, CN	69
Time of concentration, Tc	0.2683 hrs
Pond and Swamp Areas	0.0000 % of Area

Computed Results:

Initial abstraction, Ia	0.8986 in
Ia/P	0.3404
Unit peak discharge, qu	562.7149 csm/in
Runoff, Q	0.4865 in
Pond and swamp adjustment, Fp	1.0000
Peak discharge, qp	2.8195 cfs

Time of Concentration
Developed

Sheet Flow

Description	Developed
Manning's N	0.1300
Flow Length	300.0000 ft
Two Yr, 24 hr Rainfall	1.5500 ft/ft
Land Slope	0.0700 fps
Computed Sheet flow time	> 0.0484 hrs

Shallow Concentrated Flow

Description	Developed
Surface	Paved
Flow Length	700.0000 ft
Watercourse Slope	0.0350 ft/ft
Velocity	3.8031 fps
Computed Shallow flow time	> 0.0511 hrs

****

Total Time of Concentration ..... > 0.0995 hrs

****

Graphical Peak Discharge Method
Developed

Given Input Data:

Description	Developed
Rainfall distribution	Type II
Frequency	25 year
Rainfall, P (24-hours)	2.6400 in
Drainage area	0.0089 mi2
Runoff curve number, CN	98
Time of concentration, Tc	0.1000 hrs
Pond and Swamp Areas	0.0000 % of Area

Computed Results:

Initial abstraction, Ia	0.0408 in
Ia/P	0.1000
Unit peak discharge, qu	1009.9968 csm/in
Runoff, Q	2.4100 in
Pond and swamp adjustment, Fp	1.0000
Peak discharge, qp	21.6631 cfs

APPENDIX B

MONITORING AND INSPECTION FORMS

TOOELE COUNTY HEALTH DEPARTMENT
SOLID WASTE MANAGEMENT FACILITY INSPECTION FORM

Site Name _____ Telephone _____ Date _____
Site Location _____ Site Owner/Operator _____
Facility Type: Municipal _____ C/D _____ Asbestos _____ Private _____ Other (specify) _____
Inspection Type: Construction _____ Permit _____ Complaint _____ Routine _____ Closure _____ Post-Closure _____
Consultation _____ Training _____
Site Acreage _____ Estimated Site Life Remaining _____

LEGEND OF INSPECTION NOTATION: X = Violation, OK = No violation, BLANK = Not inspected/Not applicable

UNAUTHORIZED WASTE EXCLUSION
( ) 1. Incoming loads inspected
(Check applicable methods)
( ) Random ( )10% ( )Suspicious
( ) 2. Procedures for notification implemented
( ) 3. Unauthorized or hazardous waste accepted
(specify in remarks)

WASTE COMPACTING
( ) 4. Adequate waste compacting equipment available
( ) 5. Waste compacting adequate

DAILY COVER
( ) 6. Daily cover provided (note type in remarks)
( ) 7. Daily cover thickness adequate

ACCESS CONTROL
( ) 8. Unauthorized access controlled
(note measures in remarks)

LITTER CONTROL
( ) 9. Litter control program in place
( ) 10. Access roads and facility free of litter

DISEASE & VECTOR CONTROL
( ) 11. Rodent, mosquito, fly measures taken
( ) 12. Rodent, mosquito, fly conditions present

AIR QUALITY
( ) 13. Open burning
( ) 14. Surface or subsurface fires
( ) 15. Appropriate air emission parameters monitored
( ) 16. Fugitive dust controls in place

RECORD KEEPING
(Documents kept and available)
( ) 17. Hard copy of operational plan
( ) 18. Employees trained on operational plan
( ) 19. Closure and post-closure plans
( ) 20. Cost estimates and financial assurance documents
( ) 21. Incoming load inspections
( ) 22. Rejected waste loads (including hauler's name)
( ) 23. Groundwater monitoring results
( ) 24. Methane gas monitoring results
( ) 25. Air emissions monitoring
( ) 26. County and State inspections
( ) 27. Personnel trained
( ) 28. Training program procedures
( ) 29. Inspection procedures
( ) 30. Closure and post-closure plans
( ) 31. Cost estimates and financial assurance

LINER
( ) 32. Constructed with an impermeable liner system
(specify type and thickness in remarks)

EXPLOSIVE GASES
( ) 33. Methane gas recovery or venting system in place
(specify type in remarks)
( ) 34. Methane gas monitored

LEACHATE COLLECTION SYSTEM
( ) 36. Constructed with a leachate collection system
( ) 37. Leachates collection system and operation approved

SURFACE WATER & RUN-ON/OFF CONTROL SYSTEM
( ) 38. System for diverting 24-hour, 25-year storm event
( ) 39. System for treating 24-hour, 25-year storm event
( ) 40. Refuse impacted surface water properly discharged

FINAL COVER
( ) 41. Covered with engineered system
( ) 42. 24 inch minimum thickness
( ) 43. Final cover meets maximum permeability requirement
( ) 44. Upper 6" capable of supporting vegetation
( ) 45. Completed portions of landfill re-vegetated
(note type in comments)

GROUNDWATER MONITORING SYSTEM
( ) 46. Groundwater monitoring system in place
( ) 47. Groundwater sampled and analyzed at required intervals
( ) 48. Department has latest groundwater results performed
( ) 49. Statistical comparison of analytical results performed
( ) 50. Wells: locked, concrete pad intact, casing intact, covered

CLOSURE PLAN
( ) 51. Methods, procedures, and process to be used for closure
( ) 52. Estimate of the portion of the landfill open for disposal
( ) 53. Estimate of the maximum inventory of wastes during landfill lifetime
( ) 54. Description of the final cover design
( ) 55. Schedule to complete closure
( ) 56. Inspections for setting
( ) 57. Inspections for subsidence
( ) 58. Inspections for erosion
( ) 59. Erosion prevention plan
( ) 60. Maintenance and operations for leachate collection and disposal
( ) 61. Groundwater monitoring
( ) 62. Methane gas monitoring

FINANCIAL ASSURANCE
( ) 63. Cost estimate of third party closure implementation
( ) 64. Cost estimate of third party post-closure implementation
( ) 65. Mechanism for funding closure and post-closure care

SITING RESTRICTION
( ) 66. 10,000 feet from turbojet aircraft airport
( ) 67. 5,000 feet from piston aircraft airport
( ) 68. In a 100-year flood plain
( ) 69. Measures taken to divert water flow from facility
( ) 70. Any part of facility or expansion area in a wetland
( ) 71. Within 200 feet of a fault having a displacement in Holoce
( ) 72. Within "seismic impact zone"
( ) 73. Within landslide prone area
( ) 74. Within subsidence prone area
( ) 75. Over Karst terrain or caverns
( ) 76. Within expansive soils area

Env. Health Specialist Signature: _____
Facility Operator Signature: _____

rev 6/9/97

Attachment #9

Recycling & Composting Plan of Operation

Appendix L – Recycling and Compost Facility Plan of Operations

TOOELE COUNTY DEPARTMENT OF SOLID WASTE RECYCLING AND COMPOSTING FACILITY PLAN OF OPERATION

TOOELE COUNTY

TOOELE COUNTY
47 South Main
Tooele, Utah 84074
435-833-9520

March 2009

ADVANCED ENVIRONMENTAL ENGINEERING
1975 North Main St., Suite 3 • Layton, UT 84041
Tel: 801-773-3155 • Fax: 801-773-3156

TOOELE COUNTY DEPARTMENT OF SOLID WASTE
RECYCLING AND COMPOSTING FACILITY
PLAN OF OPERATION

Prepared for:

TOOELE COUNTY DEPARTMENT OF SOLID WASTE
47 South Main
Tooele, Utah 84074

Prepared by:

ADVANCED ENVIRONMENTAL ENGINEERING
1975 North Main. – Suite 3
Layton, Utah 84041

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PLAN OF OPERATION

1.1 INTRODUCTION

Tooele County is currently operating a Recycling and Composting Facility (Compost Facility) at its existing solid waste facility site near Bauer, Utah. The Compost Facility is designed, constructed, and operated in accordance with applicable Federal and State laws and standards. In conjunction with the Compost Facility, Tooele County operates a Waste Transfer Station, Class IIIb Landfill (Closed), Class IV Landfill, and a Scale House. This General Plan of Operation (OP) has been prepared to satisfy standards established by the State of Utah Solid Waste Permitting and Management Rules (Rules), Section R315-312-Recycling and Composting Facility Standards.

CLOSED CLASS IIIb LANDFILL

TRANSFER STATION

SCALE HOUSE

CLASS IV LANDFILL

The site is located approximately six miles south of Tooele, Utah on the southwest flank of the Oquirrh Mountains as shown on Figure 1.1. The Landfill Facility location is the site of a former sand and gravel pit, situated on Lake Bonneville shoreline deposits, sloping to the west toward the valley floor. The surficial soils are silty or sandy with scattered gravel.

The site is not located within 500 feet of any permanent residence, school, hospital, institution, office building, restaurant, church, wetlands, watercourses, or floodplains.

Presently, solid waste generated in Tooele County is transported to the site and sorted. Construction and demolition (C&D) waste and all green waste are composted or disposed of on site. Recyclable materials are sorted for shipment. Portions of the municipal waste, which are not compostable or recyclable, are bailed and shipped for disposal to Wasatch Regional Landfill also located in Tooele County, Utah.

Table 1.1 shows the distribution of waste excluding the Class IIIb Landfill, which was permitted in April of 2000 for a remediation project in the Town of Stockton. Its mono-fill waste does not contribute to the compostable waste stream and has been closed.

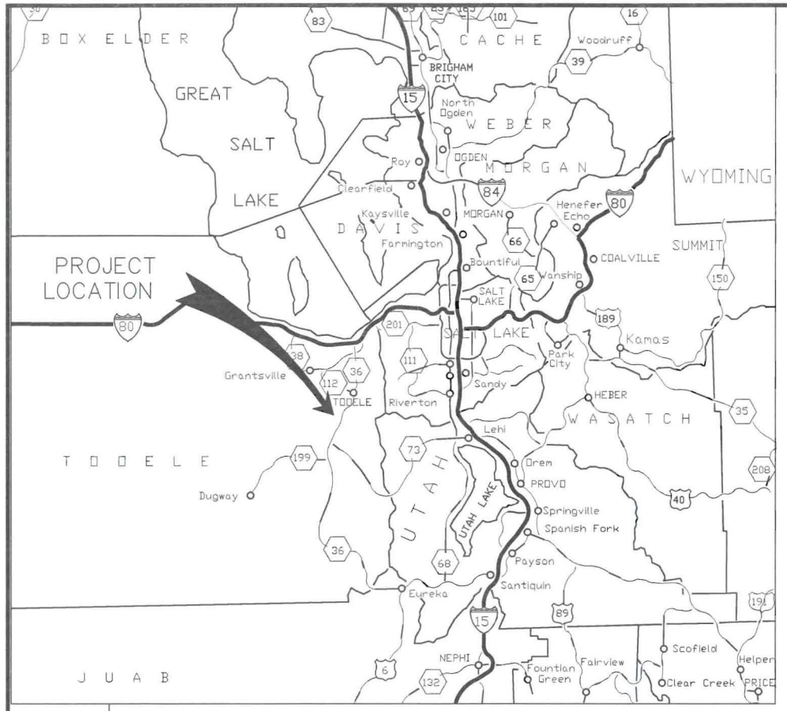
TABLE 1.1

DISTRIBUTION OF WASTE

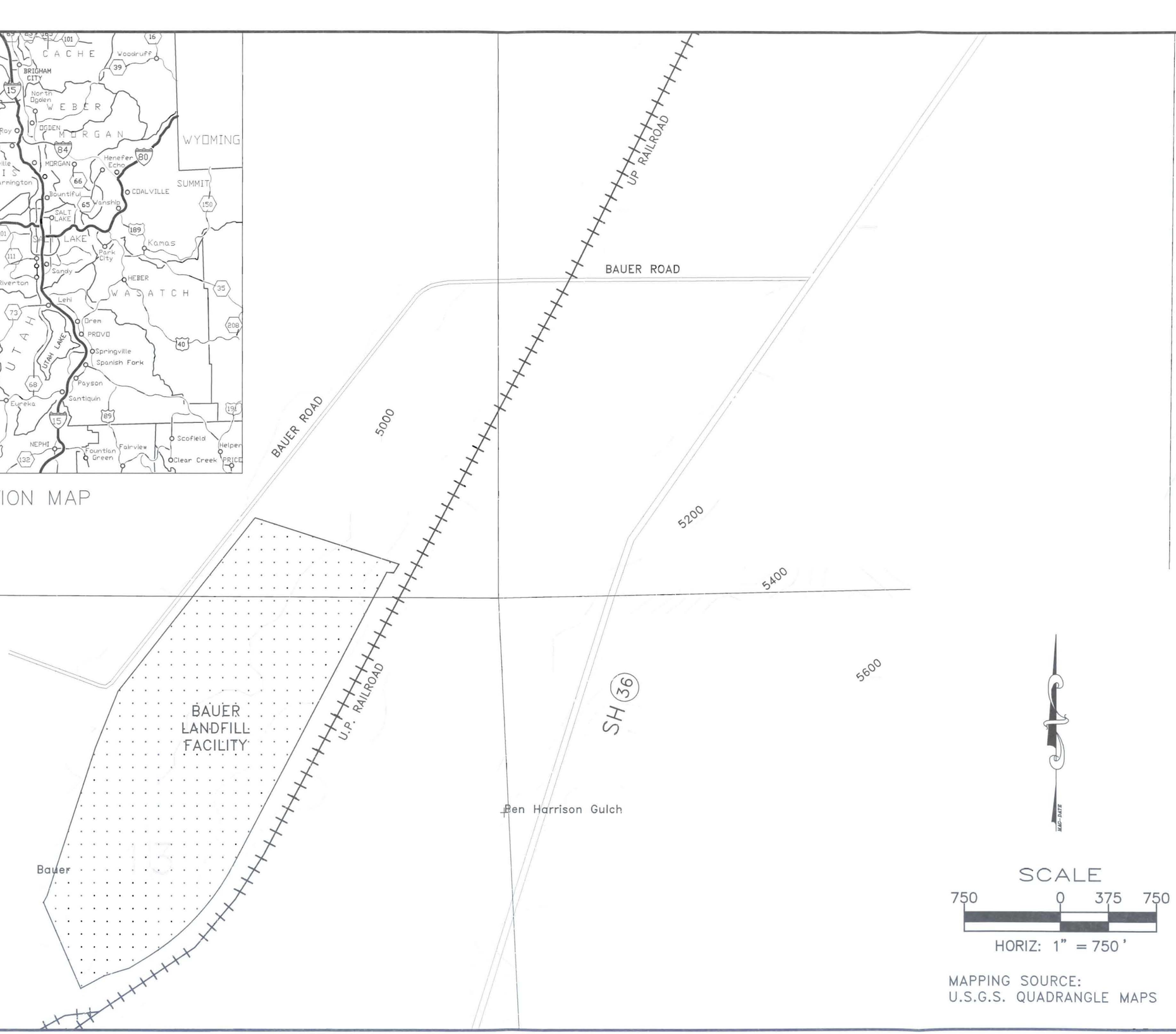
Year	**Delivered Waste** (tons)	**Annual Increase** (percent) [1]	**Diverted Waste** (tons) [2]	**Annual Increase** (percent) [1]	**Disposed Class IV Waste** (tons)	**Annual Increase** (percent) [1]
2005	60,795	1.3	33,205	0.3	24,788	1.3
2006	94,669	1.6	64,391	1.9	30,278	1.2
2007	117,088	1.2	65,836	1.0	48,299	1.6
2008	**65,164**	**2.1**	**25,586**	**-2.4**	**24,403**	**1.0**

[1] Annual increase was calculated using 1998 data.

[2] Diversions include Transfer Station, Composting, and Recycling.



LOCATION MAP



SCALE

750 0 375 750

HORIZ: 1" = 750 '

MAPPING SOURCE:
U.S.G.S. QUADRANGLE MAPS

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL RECYCLING AND COMPOST FACILITY

GENERAL PLAN OF OPERATION

VICINITY MAP

ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJS
DRAWN: JJS
CHECKED: CAH
DATE: 3/2009

FIGURE:

1.1

1-3

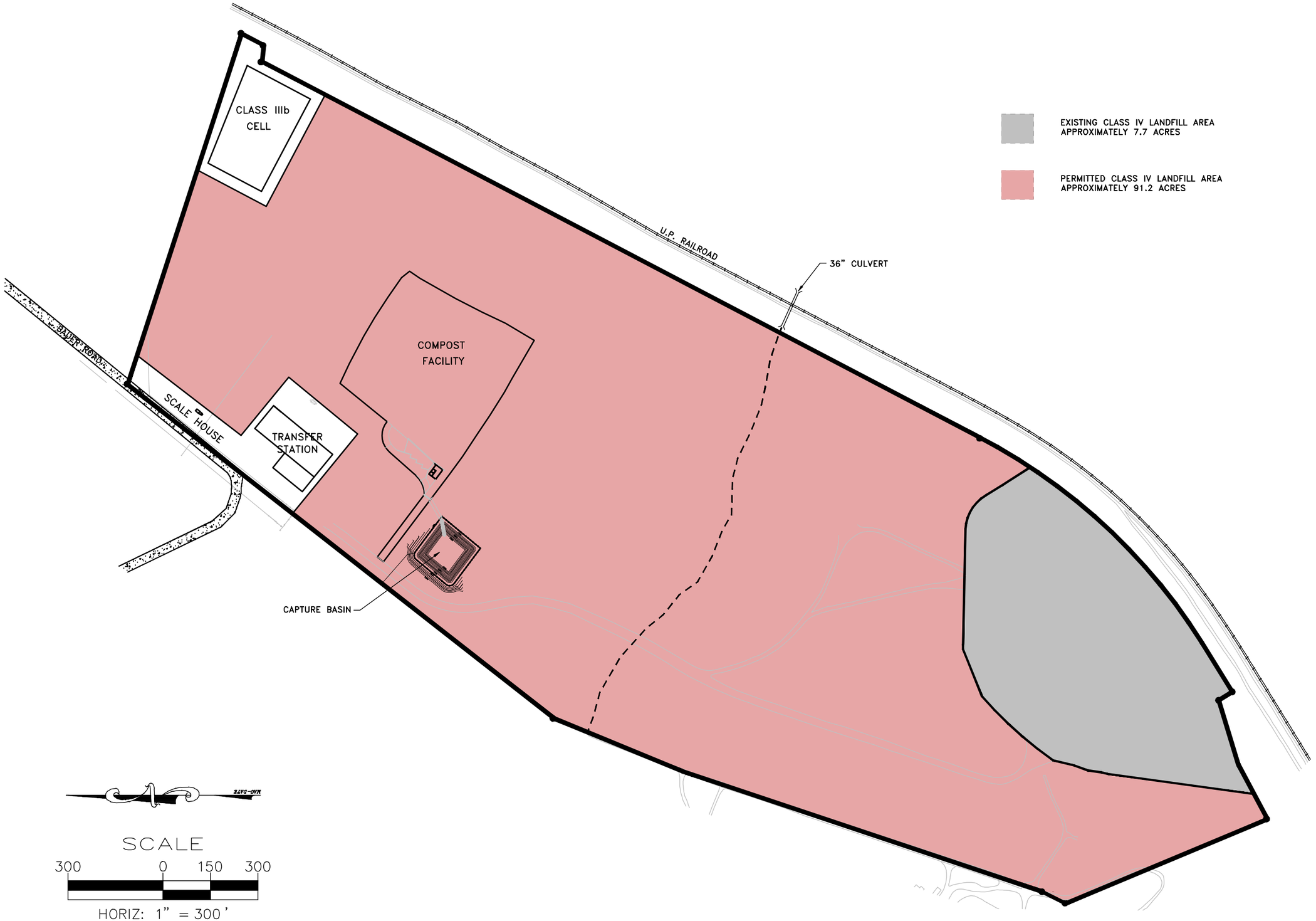
1.2 PURPOSE

The purpose of this OP is to characterize the operation of the Compost Facility for permitting and management purposes. A landfill is a dynamic system that undergoes continual development. Changes may occur in quantities of disposed materials, topography of the landfill, demographics of the service area, and administrative and regulatory requirements. These changes would be accomplished to conserve landfill space and protect human health and the environment. The intent of this OP is to provide an accurate description of the daily operations and procedures while allowing for modifications that may be required to compensate for operational changes.

1.3 FACILITY DESCRIPTION

The location of the Compost Facility in relation to the other operations at the Bauer Landfill Facility is shown on Figure 1.2. The Compost Facility is located east of the Transfer Station on an asphalt pad surface that drains to the west at a slope of 7%. The pad was built in accordance to the Rules. Storm water run-off from the pad is routed to a capture basin located south of the Transfer Station. The basin is approximately 124 feet square by 18 feet deep and is used to store water necessary in the composting process. The unused process water drains back to the basin for reuse. The make-up water is obtained from the Transfer Station by directly watering the piles or by filling the basin for future use. Matter that settles and accumulates in the capture basin is removed and disposed as needed.

RECYCLING AND COMPOSTING FACILITY



DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL RECYCLING AND COMPOST FACILITY

GENERAL PLAN OF OPERATION

FACILITIES MAP

ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJB
DRAWN: JJB
CHECKED: GMH
DATE: 10/2009

FIGURE:

1.2

1-5

1.4 FACILITY LEGAL DESCRIPTION

The site is located in Section 13, Township 4 South, Range 5 West, Salt Lake Base and Meridian and is more particularly described as follows:

Beginning at a point North 28° 23' 03" East 4,438.14 from the common corner to sections 13, 14, 23, and 24 and considering the South line of the Southeast quarter of Section 14 to bear South 88° 55' 37" West; thence North 37° 33' 57" East 1,709.54 feet; thence South 72° 34' 43" East 1,164.95 feet to the West right of way line of the Union Pacific Railroad; thence along said right of way line the following courses, South 27° 04' 36" West 78.92 feet; thence North 83° 05' 55" West 53.19 feet; thence South 27° 04' 36" West 2,562.27 feet; thence 978.55 feet along a curve to the right having a radius of 1823.09 feet and along a chord of which bears South 42° 27' 13" West 966.84 feet; thence South 57° 49' 50" West 167.41 feet, thence North 32° 08' 16" West 50 feet; thence leaving said right of way North 15° 19' 21" East 606.74 feet; thence West 425.00 feet; thence North 21° 21' 18" East 1633.03 feet; thence South 89° 01' 49" West 407.88 feet more or less to the point of beginning. Subject to all easements and rights of way of record.

1.5 RUN-ON/RUN-OFF ANALYSIS

For permitting purposes, a drainage analysis was completed for the Bauer Landfill Facility. The Compost Facility is located in one of the drainage zones established for the analysis as identified on Figure 1.3. This drainage zone is isolated from upstream run-off by an elevated railroad grade to the east, which routes the run-off south along the tracks. The peak run-off flow generated from the 25-year 24-hour storm event was determined for this drainage zone by applying the U.S. Soil Conservation Service Technical Release Number 55 (SCS TR-55) method. For the analysis, the drainage zone was divided into a developed subzone and an undeveloped subzone because run-off east of the asphalt pad is diverted around the pad with the use of channels and berms. The developed subzone includes the compost pad and the capture basin. The undeveloped subzone is the remaining area east of the compost pad.

CLASS III b
MONO-FILL CELL

DRAINAGE ZONE

U.P. RAILROAD

COMPOST FACILITY

SCALE HOUSE

TRANSFER STATION

CAPTURE BASIN

SCALE

250 0 125 250

HORIZ: 1" = 250'

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF IT DOES NOT MEASURE 1 INCH

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL RECYCLING AND COMPOST FACILITY

GENERAL PLAN OF OPERATION

SITE DRAINAGE MAP

AE2
ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJB
DRAWN: JJB
CHECKED: CHM
DATE:

FIGURE:

1.3

1-7

The volume of water generated from the developed subzone for a 25-year 24-hour storm event was calculated to check the maximum operating water level in the capture basin. The peak discharge from the undeveloped subzone was used to calculate the required channel size to divert the run-off. Table 1.2 shows the results of the analysis. Appendix A contains printouts from the hydrologic analysis.

TABLE 1.2

DRAINAGE ANALYSIS RESULTS

Parcel	**Area** (acres)	**Time of Concentration** (hours)	**Peak Discharge** (cfs)	**Runoff Q** (in)	**Volume** (ft^3)
Developed	5.7	0.05	21.7	2.41	49,830
Undeveloped	6.6	0.27	2.8	0.49	11,641

The results indicate that the capture basin water surface should remain 5 feet below the rim to satisfy the storage requirements. Currently the normal working water surface is maintained approximately 8 feet below the rim elevation and could be adjusted accordingly.

The run-off generated from the undeveloped subzone is diverted and routed around the compost pad and capture basin through strategically placed channels and berms. The required size of trapezoidal channel necessary to divert the run-off is 8”deep by 24” wide with 2.5H:1V side slopes. This size criterion was then used to check the existing berms and channels for capacity requirements. The current run-off diverting mechanisms are expected to meet the capacity requirements to divert the 25-year 24-hour storm event.

1.6 OPERATIONAL PROCEDURES

Figure 1.4 shows the current layout of the Compost Facility. The composting office is located on the east of the composting pad, and the public recycling center is located on the west side. The remaining area is used for composting purposes.

CLASS IIIb AREA

SCALE

150 0 75 150

HORIZ: 1" = 150'

RUN-ON CONTROL

COMPOSTING AREA

COMPOSTING OFFICE

ADMINISTRATION OFFICE

SCREENING AREA

UNPROCESSED MATERIAL AREA

GRINDING AND MULCHING AREA

SCALE HOUSE

ROLL-OFF RECYCLING DUMPTERS

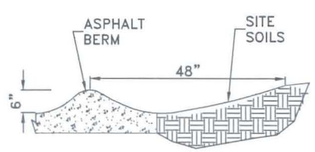
CONTAINED RECYCLING AREA

TRANSFER STATION

PUBLIC TRAFFIC FLOW

BAUER ROAD

CAPTURE BASIN



SECTION A
N.T.S.

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH

0 1/2 1

TOOELE COUNTY DEPARTMENT OF SOLID WASTE

BAUER LANDFILL RECYCLING AND COMPOST FACILITY
GENERAL PLAN OF OPERATION
COMPOST FACILITY

ACE2
ADVANCED ENVIRONMENTAL ENGINEERING
1975 N. MAIN, SUITE #3, LAYTON UTAH 84041
PHONE: 801.773.3155 FAX: 801.773.3156

DESIGN: JJS
DRAWN: JJS
CHECKED: CAH
DATE: 3/2009

FIGURE:

1.4

1.6.1 Recycling

Recycling areas are located at the Transfer Station and the public recycling center. Employees of the Transfer Station sort recyclable materials, which are later bailed

BAILER FOR RECYCLABLE REFUSE COLLECTED IN THE TRANSFER STATION

PUBLIC RECYCLING BINS

and stockpiled for transportation. The public recycling center uses roll-off recycling dumpsters for sorting recyclable materials. Recycling contractors provide and maintain their own roll-off dumpsters on site. Typical recyclable materials that are bailed and sorted in the dumpsters include cardboard, metals, white paper, carpet pad, foam rubber, tires, and batteries. Stockpiled recyclable materials are typically stored on site for six months or less. Regulations require that 50% of the stockpiled recyclable materials on hand at the beginning of the year be removed by the end of the year or the facility will be considered as disposing, of the recyclable materials.

1.6.2 Compost / Mulch

The compost generated at the facility would be a mixture of green waste, biodegradable (C&D) waste, and a nitrogen source. Mulch would be a mixture of green waste and biodegradable (C&D) waste. Green waste used in the process includes grass and yard clippings. C&D waste includes lumber and other

biodegradable materials. Nitrogen sources could be from agricultural waste, biosolids, or fertilizers.

STOCKPILED COMPOSTING INGREDENTS

The speed at which a windrow will compost is dependent on the carbon to nitrogen ratio, surface area, aeration, moisture, and temperature.

Heat is produced as the microorganisms decompose. This production of heat is used to monitor the composting process. The temperature of the piles can be adjusted by the surface area, turning frequency, and water content. All of these methods are used and modified as necessary. Obviously the high temperatures will decrease in the winter months resulting in a slowed decomposition rate.

a) Composting Procedures

During the compost process, operation records are maintained and keep in the composting office. Possible operational forms are included in Appendix B.

MECHANICAL GRINDER

The composting process includes two stages. The initial stage, starts with the mulching of raw materials. The mulched materials are then mixed with the other composting ingredients and placed in windrows, which are watered and ventilated as needed. The typical summer time

windrows are 12 feet high and 24 feet wide. The space and availability of materials allow windrows up to 150 feet in length. The winter windrows are typically taller and wider to help maintain the appropriate temperature. The windows remain in the first stage until the temperature rises dramatically. At this point the windows advance to the next stage, where two parallel windrows are mixed together to form one windrow. This combined windrow is mixed and watered as required to maintain a temperature range of 140-160°F for a period of not less than seven days. After the seven-day period, the compost remains in windrows until it has matured and stabilized. Upon stabilization, the windows are screened and stockpiled for purchase by the public. The screened materials are returned to the beginning of the process. Under normal conditions the composting process takes 2-3 months. Fees are collected at the Scale House and currently all matured compost is being sold.

TYPICAL COMPOSTING WINDROWS

MECHANICAL SCREEN

Special precautions and procedures have been developed for the following operating conditions:

Wind: Increase water duration cycles to decrease potential for low water content and the generation of fugitive dust.

Heavy Rain: Maintain appropriate drainage pathways around windrows and inspect run-on and run-off control devices.

Snow: During the winter months the windrows are built higher and wider to account for lower ambient temperatures. Fallen snow will rapidly turn to water resulting in elevated water contents and lower watering requirements.

Freezing Temperatures: During freezing conditions, the windrows are built higher and wider. The composting process usually will require additional time.

b) Mulching Procedures

The mulching process involves grinding and mixing raw materials and then stockpiling them to be sold.

1.6.3 Equipment

The following equipment is currently stationed and used at the landfill to spread or compact waste, control dust, and perform other facility operations.

1	Bailer	1	Boom Truck
1	Roll-off Truck	2	End Dump Trucks
2	Water Tanks	1	Roller
2	Dozers	1	Grader
2	Earth Scrapers	1	Pickup Dump Truck
2	Tool Carriers	4	Loaders
1	Tub Grinder	1	Fork lift
1	Compost Turner	1	Skid Steer
1	Trommel Screen		

The County will maintain sufficient equipment to operate the Compost Facility.

1.7 ON-SITE LINES OF AUTHORITY

The Compost Facility is owned and operated by Tooele County. Daily operation of the Compost Facility and related facilities is under the direction of the Landfill Manager. In the event of the Landfill Manager's absence, a Senior Operator is the designate in charge of the landfill.

At the beginning of each working day, the Landfill Manager is responsible for informing Operators of any upcoming changes in their normal responsibilities. The Landfill Manager or Senior Operator is notified if windrow temperatures for compost are not in the normal temperature range or if unusual odors are detected. The Landfill Manager or Senior Operator will then take action.

1.8 MONITORING AND INSPECTION SCHEDULE

The schedule for monitoring and inspection of the Compost Facility to ensure proper operation and maintenance is provided in the Table 1.3. The following items are housed in the compost office: monitoring and inspection equipment, monitoring forms, and a schematic of the windrow placement with assigned identification numbers. When the windrows are stockpiled for public purchase, all monitoring forms are transferred from the composting office to the Administration Office and are filed for later use.

TABLE 1.3

MONITORING AND INSPECTION SCHEDULE

Inspection/Monitoring Activity	Frequency
Windrow Temperature	During operation as needed
Access Road Condition and Maintenance	During operation as needed
Fence Inspection and Maintenance	Monthly
Run-on	Following a significant storm event

Asphalt Pad	Monthly
Run-off to Capture Basin	Monthly
Equipment Maintenance	Per manufacturers recommendations

1.9 CONTINGENCY PLAN

The Contingency Plan is designed to minimize hazards to human health or the environment from any unplanned sudden or non-sudden discharge to air, soil, surface, or groundwater. The provisions of this plan would be carried out immediately upon an emergency situation or release, which could threaten human health or the environment. Emergency evacuation of the site would not be necessary given the nature of the waste materials stored and processed at the site. The probabilities of incidents caused by fire, explosion, or toxic vapor generation are remote.

1.9.1 Fire or Explosion

The primary means of fire control in the Compost Facility is to isolate hot or burning fuel source. In the event that a fire does erupt during operating hours, the burning material would be separated from the other materials and doused with water. This action would be supported, when necessary, by the mobilization of additional equipment owned and operated by the County.

1.9.2 Explosive Gas Release

Under proper operating procedures, significant amounts of explosive gas are not expected. If significant amounts of explosive gas were being generated, the Landfill Manager or Senior Operator would be notified. The Landfill Manager or Senior Operator would then take steps to remedy the problem, typically by turning the windrows.

1.9.3 Failure of a Containment System

The asphalt pad and the runoff capture basin are visually inspected monthly. Should failure of these containment systems occur, the containment system would be repaired or replaced.

1.10 ALTERNATIVE WASTE HANDLING AND DISPOSAL PLAN

If problems were to occur that prevented the use of the Compost Facility, the materials would be either be stockpiled or redirected to the Class IV Landfill. In the event that any problems result in the handling of the materials directed to the Class IV Landfill, the materials would be redirected to the Transfer Station. In the event of a major equipment failure in the Transfer Station, materials would be loaded and shipped off site to Wasatch Regional Landfill for disposal. In the event of a problem resulting in a complete shutdown of Wasatch Regional Landfill, materials would be redirected to the West Wendover and/or Elko Nevada Solid Waste Facilities.

1.11 PROCEDURES FOR CONTROLLING DISEASE VECTORS

Disease vectors in and around the composting area are controlled through frequency of aeration and the prevention of standing water. Control of disease vectors in the Transfer Station is either by bailing or stockpiling recyclables within four days of placement on the tipping floor.

1.12 PROCEDURES FOR EXCLUDING THE RECEIPT OF HAZARDOUS WASTE

A “Prohibited Waste” control program designed to detect and deter attempts to dispose of hazardous and other unacceptable waste is presently implemented at the Tooele County Solid Waste Management Facility. The program is designed to protect the health and safety of employees, customers, and the general public, as well as protect against contamination of the environment. The Landfill Manager is in charge of hazardous waste activities.

The site is open for public and private disposal. Signs are posted near the site entrance clearly indicating (1) the types of waste to be accepted; (2) that hazardous waste is to be excluded; and (3) the penalty for illegal disposal. All vehicles delivering waste to the site are stopped at the Scale House. Scale House personnel, to the extent possible, visually inspect incoming waste for hazardous materials. Any vehicle suspected of carrying unacceptable materials (liquid waste, sludge, or hazardous waste) is prevented from entering the disposal site area. Vehicles carrying hazardous materials are required to exit the site without tipping their loads. If a load contains or was suspected of containing hazardous materials, the Landfill Manager is notified and the following information recorded for future reference: date, name of hauler, and license plate number.

After the load has been visually inspected at the Scale House, the vehicle is directed to the appropriate discharge location. Facility personnel regularly inspect loads at the sites. If a discharged load contains hazardous material, the discharger is required to reload the material and remove it from the site. The discharger is then instructed on acceptable locations and methods for disposal and the local health department notified.

If the identity of discharger were unknown, the area where the hazardous material was discharged would be cordoned off. The hazardous material would be moved to a designated area for identification and preparation for proper disposal.

The Operators at the Transfer Station are responsible for identification and prohibition of excluded waste. All employees are trained in methods and techniques for spotting liquid waste, drums, waste in sealed containers, red-bag waste, PCB waste, and waste which exhibited unusual odors or markings. All such waste are excluded from the landfill facility and upon discovery, segregated from acceptable waste pending alternative disposal.

1.13 GENERAL TRAINING AND SAFETY PLAN

Each employee at the landfill facility is trained to have a working knowledge of the maintenance and operational techniques necessary to operate and maintain the landfill facility in a manner to preserve human health or safety and the environment. Training is accomplished through on-the-job training (OJT) and classroom training sessions. The Landfill Manager, or a designated professional trainer, is in charge of directing the training programs. Initial training is completed within three months of employment followed by an annual review of basic waste management skills.

1.13.1 Training Schedule

The Landfill Manager is required to take the SWANA Manager of Landfill Operations (MOLO) course. In addition, Operators are required to take one or both of the SWANA training courses: Landfill Operator Training, and Waste Screening. Continuing education efforts include the following:

Introductory Training

Synopsis of solid waste regulations, record keeping, and transporter requirements.

- Requirement: All Personnel
- Method: OJT
- Review: Quarterly

Policies and Procedures

Security, inspections and emergency response.

- Requirement: All Personnel
- Method: lecture/video course, OJT
- Review: Quarterly

Safety

Personal protection, hazardous waste recognition, hazardous material handling, emergency response and first aid.

- Requirement: All Personnel
- Method: Classroom/video course
- Review: Annual

A Safety Training meeting is held once a week taking a minimum of 15 minutes. Training documents would be kept with the OP for five years.

1.14 RECORD KEEPING AND REPORTING

The Landfill Manager maintains the following operating records for the landfill:

- Records of inspection (Example Located in Appendix B)
- Records of training

1.15 COSTS FOR CLOSURE

Final closure of the Compost Facility would be initiated within 120 days following receipt of the final load. Closure activities would include removal of all compost, mulch, and materials on the compost pad. Unfinished compost would be removed for disposal in the Class IV Landfill or transported for appropriate disposal. Finished compost would be sold or stockpiled for final cover applications. Unfinished mulch would be removed for disposal in the Class IV Landfill or transported for appropriate disposal. Finished mulch would be sold or stockpiled for final cover applications. The asphalt pad would not be removed, but would be cleaned with water. The remaining wash water would either be evaporated or disposed of properly. The capture basin liner would be disposed of in the Class IV Landfill or transported for appropriate disposal. The depression left by the capture basin would then be filled in with site soils. A "Statement of Fact" identifying use of the property for landfilling

would be recorded with the county recorder as part of the record of title and plat. Post closure activities would not be required. The estimated closure costs are shown below in Table 1.4.

TABLE 1.4

COSTS FOR CLOSURE

Task	Quantity	Units	Unit Cost	Task Cost
CLOSURE				
Collect & Spread Woodchips	55	TON	$16.00	$880
Empty Irrigation Basin	1	LS	$2,000	$2,000
			Total	**$2,880**

1.16 FINANCIAL ASSURANCE

Tooele County meets the financial assurance set forth in R315-309-2(3).

APPENDIX A

DRAINAGE ANALYSIS CALCULATIONS

Station: Tooele Elevation: 4820
Latitude: 40° 32' Longitude: 112° 18'

Return Period (Years)	Duration									
	5 Min.	10 min.	15 Min.	30 Min.	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	0.11	0.18	0.22	0.31	0.39	0.49	0.59	0.83	1.05	1.27
2	0.14	0.22	0.28	0.39	0.49	0.61	0.73	1.02	1.28	1.55
5	0.19	0.29	0.37	0.51	0.65	0.8	0.94	1.3	1.62	1.95
10	0.23	0.36	0.45	0.62	0.79	0.96	1.11	1.51	1.86	2.23
25	0.27	0.42	0.54	0.74	0.94	1.14	1.32	1.79	2.21	2.64
50	0.31	0.48	0.61	0.85	1.07	1.29	1.49	2.01	2.47	2.95
100	0.34	0.53	0.67	0.92	1.17	1.41	1.64	2.22	2.73	3.27

Station: Trial Lake Elevation: 9800
Latitude: 40° 41' Longitude: 110° 58'

Return Period (Years)	Duration									
	5 Min.	10 min.	15 Min.	30 Min.	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	0.08	0.13	0.17	0.23	0.29	0.4	0.51	0.77	1.01	1.25
2	0.1	0.15	0.19	0.27	0.34	0.48	0.61	0.93	1.22	1.52
5	0.13	0.2	0.25	0.35	0.44	0.61	0.77	1.18	1.54	1.92
10	0.15	0.23	0.3	0.41	0.52	0.71	0.89	1.35	1.76	2.18
25	0.17	0.26	0.33	0.46	0.58	0.81	1.03	1.58	2.07	2.58
50	0.19	0.29	0.36	0.51	0.64	0.9	1.15	1.77	2.32	2.9
100	0.21	0.32	0.41	0.57	0.72	1.01	1.28	1.96	2.57	3.2

Time of Concentration
Developed

Sheet Flow

Description	Developed
Manning's N	0.1300
Flow Length	300.0000 ft
Two Yr, 24 hr Rainfall	1.5500 ft/ft
Land Slope	0.0700 fps
Computed Sheet flow time	> 0.0484 hrs

Shallow Concentrated Flow

Description	Developed
Surface	Paved
Flow Length	700.0000 ft
Watercourse Slope	0.0350 ft/ft
Velocity	3.8031 fps
Computed Shallow flow time	> 0.0511 hrs

****

Total Time of Concentration ..... > 0.0995 hrs

****

Graphical Peak Discharge Method
Developed

Given Input Data:

Description	Developed
Rainfall distribution	Type II
Frequency	25 year
Rainfall, P (24-hours)	2.6400 in
Drainage area	0.0089 mi2
Runoff curve number, CN	98
Time of concentration, Tc	0.1000 hrs
Pond and Swamp Areas	0.0000 % of Area

Computed Results:

Initial abstraction, Ia	0.0408 in
Ia/P	0.1000
Unit peak discharge, qu	1009.9968 csm/in
Runoff, Q	2.4100 in
Pond and swamp adjustment, Fp	1.0000
Peak discharge, qp	21.6631 cfs

Time of Concentration
Undeveloped

Sheet Flow

Description	Undeveloped
Manning's N	0.1300
Flow Length	300.0000 ft
Two Yr, 24 hr Rainfall	1.5500 ft/ft
Land Slope	0.1070 fps
Computed Sheet flow time	> 0.2577 hrs

Shallow Concentrated Flow

Description	Undeveloped
Surface	Unpaved
Flow Length	170.0000 ft
Watercourse Slope	0.0765 ft/ft
Velocity	4.4626 fps
Computed Shallow flow time	> 0.0106 hrs

****

Total Time of Concentration ..... > 0.2683 hrs

****

Graphical Peak Discharge Method
Undeveloped

Given Input Data:

Description	Undeveloped
Rainfall distribution	Type II
Frequency	25 year
Rainfall, P (24-hours)	2.6400 in
Drainage area	0.0103 mi2
Runoff curve number, CN	69
Time of concentration, Tc	0.2683 hrs
Pond and Swamp Areas	0.0000 % of Area

Computed Results:

Initial abstraction, Ia	0.8986 in
Ia/P	0.3404
Unit peak discharge, qu	562.7149 csm/in
Runoff, Q	0.4865 in
Pond and swamp adjustment, Fp	1.0000
Peak discharge, qp	2.8195 cfs

Channel Calculator
Channel Flow for Run-On

Given Input Data:

Shape	Trapezoidal
Solving For	Depth of Flow
Flowrate	2.8200 cfs
Slope	0.0126 ft/ft
Manning's n	0.030
Height	8.0000 in
Bottom Width	24.0000 in
Left Slope	2.5000 ft/ft
Right Slope	2.5000 ft/ft

Computed Results:

Depth	4.7153 in
Velocity	2.4063 fps
Flow Area	1.1719 ft2
Flow Perimeter	49.3929 in
Hydraulic Radius	3.4166 in
Top Width	47.5767 in
Area	4.5 ft2
Perimeter	88.6220 in
Percent Full	39.2946 %

Critical Information:

Critical Depth	4.0861 in
Critical Slope	0.0215 ft/ft
Critical Velocity	2.9046 fps
Critical Area	0.9709 ft2
Critical Perimter	46.0042 in
Critical Hydraulic Radius	3.0390 in
Critical Top Slope	44.4304 in
Specific Energy	0.4829 ft
Minimum Energy	0.5108 ft
Froude Number	0.7803
Flow Condition	Supercritical

APPENDIX B

MONITORING AND INSPECTION FORMS

Compost Facility

# Manure Loads	Date	# Buckets of Chips	Date	Other Material	Date

Notes:

Attachment #10

Closure & Post-Closure Care

Appendix M – Post-Closure Care for the Class IIIB Landfill

Post-Closure Requirements for the Class IIIB Landfill

Tooele County shall provide post-closure activities for a further period of 30 years, or as long as the Director determines is necessary for the facility or unit to become stabilized and to protect human health and the environment, for the purpose of ensuring the continued effectiveness of final cover and drainage systems. The Class IIIB Landfill was permitted in 2000 and began post-closure care in 2005.

Post-closure maintenance activities consist of quarterly inspections of the cover and run-on/runoff control systems. Tooele County Health Department has provided a standard form which has been attached. Any required maintenance is logged in the inspection log with an expected completion date for corrective measures to be completed. When the needed repairs are completed, the affected area or areas are then re-inspected, and the date when the completion of the corrective measure along with the inspector's signature is included on the inspection log. Maintenance activities are completed in a timely manner to maintain functionality of the cover and run-on/runoff control systems.

To monitor the stability of the closed landfill, periodically elevation surveys have been completed. The elevation monitoring locations for the Class IIIB Cell were installed, and originally surveyed, in 2008, then in 2009, and again in November 2020 as an effort to determine the amount of settlement that has occurred over time. Attached is a copy of a drawing showing the survey details. The data for the recent survey and past surveys are contained in the table below.

Class IIIB Cell Monitoring Location	Survey Date November 2020	Survey Date December 2009	Survey Date October 2008
R/C 1	1.17ft.	1.23 ft.	1.23 ft.
R/C 2	5.59 ft.	5.48 ft.	5.48 ft.
R/C 3	11.58 ft.	11.4 ft.	11.4 ft.
R/C 4	15.64 ft.	15.45 ft.	15.45 ft.
R/C 5	8.76 ft.	8.61 ft.	8.61 ft.
R/C 6	3.18 ft.	3.01 ft.	3.01 ft.
R/C 7	-.017 ft.	-0.14 ft.	-0.14 ft.
R/C 8	2.6 ft.	2.53 ft.	2.53 ft.

Note: The data listed above is the difference in elevation from the landfill control point, located east of the Class IIIB Cell, and the eight Class IIIB Cell elevation monitoring locations.

As the data shows, the Class IIIB Cell has experienced very minor settlement over the past 12 years, the most significant settlement has occurred at R/C 4 at only 2 ¼ inches. The careful placement and compaction of the contaminated soil has proven effective in mitigating settlement. The minor level of settlement that has and will occur in the future is believed to have no impact on the long-term stability of the closed Class IIIB Cell.

It is important to note that the post-closure plan may be amended if conditions and circumstances justify such amendment. If it is determined that amendment of a facility or unit post-closure plan is required, the Director may direct that facility post-closure procedures, in part or whole, to cease until the amendment has been reviewed and approved.

When post-closure activities are complete, as determined by the Director, the owner or operator shall submit a certification to the Director, signed by a representative of Tooele County and a professional engineer registered in the state of Utah stating why post-closure activities are no longer necessary. If the Director finds that post-closure monitoring has established that the facility or unit is stabilized (i.e., little or no settlement, gas production, or leachate generation) the Director may authorize the Tooele County to discontinue any portion, or the entirety, of post-closure maintenance and monitoring activities.

Upon receipt of certification of closure and no later than 60 days Tooele County shall:

i. Submit plats and a statement of fact concerning the location of any disposal site to the county recorder to be recorded as part of the record of title; and

ii. Submit proof of record of title filing to the Director.

Records and plans specifying solid waste amounts, location, and periods of operation may be required by the local zoning authority with jurisdiction over land use and be made available for public inspection. The current facility contact during post-closure care for the Class IIIB Landfill is as follows:

Bauer Solid Waste Facility

Wayne Anderton
47 South Main
Tooele, UT 84074
Telephone: (435) 843-4785
Email: wayne.anderton@tooeleco.org

Tooele County continues to put monies in a PTIF closure and post-closure Account. The current balance of the fund is $385,995.45 which covers the costs of closure and post-closure activities. In addition, Tooele County Department of Solid Waste demonstrates financial assurance set forth in subsection R315-309-3(7) entitled Local Government Financial Test.

TOOELE COUNTY HEALTH DEPARTMENT
SOLID WASTE MANAGEMENT FACILITY INSPECTION FORM

Site Name _____ Telephone _____ Date _____
Site Location _____ Site Owner/Operator _____
Facility Type: Municipal _____ C/D _____ Asbestos _____ Private _____ Other (specify) _____
Inspection Type: Construction _____ Permit _____ Complaint _____ Routine _____ Closure _____ Post-Closure _____
Consultation _____ Training _____
Site Acreage _____ Estimated Site Life Remaining _____

LEGEND OF INSPECTION NOTATION: X = Violation, OK = No violation, BLANK = Not inspected/Not applicable

UNAUTHORIZED WASTE EXCLUSION
( ) 1. Incoming loads inspected
(Check applicable methods)
( ) Random ( )10% ( )Suspicious
( ) 2. Procedures for notification implemented
( ) 3. Unauthorized or hazardous waste accepted
(specify in remarks)

WASTE COMPACTING
( ) 4. Adequate waste compacting equipment available
( ) 5. Waste compacting adequate

DAILY COVER
( ) 6. Daily cover provided (note type in remarks)
( ) 7. Daily cover thickness adequate

ACCESS CONTROL
( ) 8. Unauthorized access controlled
(note measures in remarks)

LITTER CONTROL
( ) 9. Litter control program in place
( ) 10. Access roads and facility free of litter

DISEASE & VECTOR CONTROL
( ) 11. Rodent, mosquito, fly measures taken
( ) 12. Rodent, mosquito, fly conditions present

AIR QUALITY
( ) 13. Open burning
( ) 14. Surface or subsurface fires
( ) 15. Appropriate air emission parameters monitored
( ) 16. Fugitive dust controls in place

RECORD KEEPING
(Documents kept and available)
( ) 17. Hard copy of operational plan
( ) 18. Employees trained on operational plan
( ) 19. Closure and post-closure plans
( ) 20. Cost estimates and financial assurance documents
( ) 21. Incoming load inspections
( ) 22. Rejected waste loads (including hauler's name)
( ) 23. Groundwater monitoring results
( ) 24. Methane gas monitoring results
( ) 25. Air emissions monitoring
( ) 26. County and State inspections
( ) 27. Personnel trained
( ) 28. Training program procedures
( ) 29. Inspection procedures
( ) 30. Closure and post-closure plans
( ) 31. Cost estimates and financial assurance

LINER
( ) 32. Constructed with an impermeable liner system
(specify type and thickness in remarks)

EXPLOSIVE GASES
( ) 33. Methane gas recovery or venting system in place
(specify type in remarks)
( ) 34. Methane gas monitored

LEACHATE COLLECTION SYSTEM
( ) 36. Constructed with a leachate collection system
( ) 37. Leachates collection system and operation approved

SURFACE WATER & RUN-ON/OFF CONTROL SYSTEM
( ) 38. System for diverting 24-hour, 25-year storm event
( ) 39. System for treating 24-hour, 25-year storm event
( ) 40. Refuse impacted surface water properly discharged

FINAL COVER
( ) 41. Covered with engineered system
( ) 42. 24 inch minimum thickness
( ) 43. Final cover meets maximum permeability requirement
( ) 44. Upper 6" capable of supporting vegetation
( ) 45. Completed portions of landfill re-vegetated
(note type in comments)

GROUNDWATER MONITORING SYSTEM
( ) 46. Groundwater monitoring system in place
( ) 47. Groundwater sampled and analyzed at required intervals
( ) 48. Department has latest groundwater results performed
( ) 49. Statistical comparison of analytical results performed
( ) 50. Wells: locked, concrete pad intact, casing intact, covered

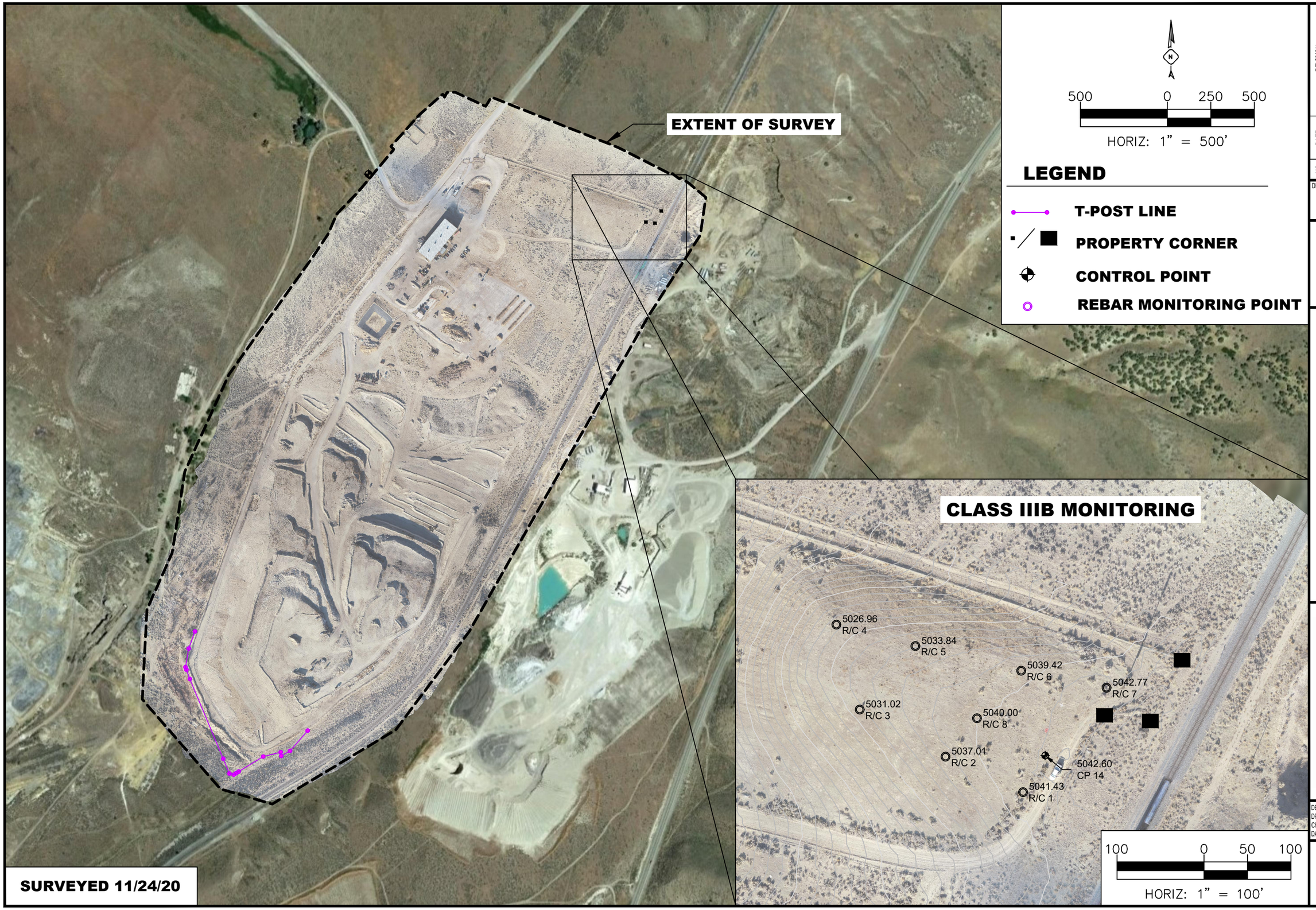
CLOSURE PLAN
( ) 51. Methods, procedures, and process to be used for closure
( ) 52. Estimate of the portion of the landfill open for disposal
( ) 53. Estimate of the maximum inventory of wastes during landfill lifetime
( ) 54. Description of the final cover design
( ) 55. Schedule to complete closure
( ) 56. Inspections for setting
( ) 57. Inspections for subsidence
( ) 58. Inspections for erosion
( ) 59. Erosion prevention plan
( ) 60. Maintenance and operations for leachate collection and disposal
( ) 61. Groundwater monitoring
( ) 62. Methane gas monitoring

FINANCIAL ASSURANCE
( ) 63. Cost estimate of third party closure implementation
( ) 64. Cost estimate of third party post-closure implementation
( ) 65. Mechanism for funding closure and post-closure care

SITING RESTRICTION
( ) 66. 10,000 feet from turbojet aircraft airport
( ) 67. 5,000 feet from piston aircraft airport
( ) 68. In a 100-year flood plain
( ) 69. Measures taken to divert water flow from facility
( ) 70. Any part of facility or expansion area in a wetland
( ) 71. Within 200 feet of a fault having a displacement in Holoce
( ) 72. Within "seismic impact zone"
( ) 73. Within landslide prone area
( ) 74. Within subsidence prone area
( ) 75. Over Karst terrain or caverns
( ) 76. Within expansive soils area

Env. Health Specialist Signature: _____
Facility Operator Signature: _____

rev 5/9/97



500 0 250 500

HORIZ: 1" = 500'

LEGEND

- T-POST LINE
- PROPERTY CORNER
- CONTROL POINT
- REBAR MONITORING POINT

CLASS IIIB MONITORING

100 0 50 100

HORIZ: 1" = 100'

NO.	DATE	REVISION

DRAWING IS NOT TO SCALE IF BAR DOES NOT MEASURE 1 INCH
0 1/2 1

TOOELE LANDFILL FACILITY SURVEY

TOOELE LANDFILL FACILITY

TOOELE COUNTY, UTAH

ADVANCED ENVIRONMENTAL ENGINEERING
789 EAST 80 NORTH, KAYSVILLE, UTAH 84037
PHONE: (801) 773-3155

DESIGN: -
DRAWN: TL
CHECKED: CH
DATE: 1/4/2021

V1.0

Attachment #11

Closure & Post-Closure Cost Estimate

Appendix H – Closure and Post Closure Estimate

1. Opinion of Probable Costs for Closure/Post-Closure

Opinion of Probable Costs for Closure				
Task	Quantity	Units	Unit Cost	Task Cost
Closure				
Fill and Grade	86	AC	$ 1,160.00	$ 99,760
Move & Place Soil Cover (18")	208,175	CY	$ 4.71	$ 980,504
Move & Place Mulch Topsoil (6")	69,392	CY	$ 4.71	$ 326,836
Final Grading	86	AC	$ 1,840.00	$ 158,240
Revegetation	86	AC	$ 1,450.00	$ 124,700
Survey & Engineer Certification	1	LS	$ 5,745.00	$ 5,745
			Subtotal	$ 1,695,785
Post-Closure				
Post-Closure Monitoring	30	Job	$1,838	$55,140
			Subtotal	$55,140
			Total	**$1,750,925**