

Peck Rock and Products
1512 North 1300 East
Lehi, Utah 84043

SEP 29 2020

DSHW-2020-014521

PERMIT RENEWAL APPLICATION

PECK ROCK & PRODUCTS
CLASS VI LANDFILL
& RECYCLING FACILITY

RENEWAL APPLICATION
FOR PERMIT # 0306R1

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Utah Class IV and VI Landfill Permit Application Form

Part I General Information							APPLICANT PLEASE COMPLETE ALL SECTIONS.								
I. Landfill Type		<input type="checkbox"/> Class IVa	<input type="checkbox"/> Class IVb	II. Application Type		<input type="checkbox"/> New Application	<input type="checkbox"/> Facility Expansion	<input checked="" type="checkbox"/> Class VI	<input checked="" type="checkbox"/> Renewal Application	<input type="checkbox"/> Modification					
For Renewal Applications, Facility Expansion Applications and Modifications Enter Current Permit Number											0306				
III. Facility Name and Location															
Name of Facility Peck Rock and Products Class VI Landfill															
Site Address (street or directions to site)										County Utah					
City				Zip Code 84013		Telephone (801)768-8111									
Township 6S		Range 1W		Section(s) 3		Quarter/Quarter Section SW1/4 SW1/4 NW1/4		Quarter Section (W1/2 NW1/4 SW1/4)							
Main Gate Latitude degrees minutes seconds				Longitude degrees minutes seconds											
IV. Facility Owner(s) Information															
Name of Facility Owner Clay Peck and Cole Peck as Managers / Peck Rock & Products ²⁵ owner															
Address (mailing) 1512 North 1300 East															
City Lehi				State UT		Zip Code 84043		Telephone (801)768-8111							
V. Facility Operator(s) Information															
Name of Facility Operator Clay Peck and Cole Peck as Managers, Peck Rock & Products as Operator															
Address (mailing) 1512 North 1300 East															
City Lehi				State UT		Zip Code 84043		Telephone (801)768-8111							
VI. Property Owner(s) Information															
Name of Property Owner SITLA															
Address (mailing) 675 East 500 South, Suite 500															
City Salt Lake City				State UT		Zip Code 84102		Telephone (801)538-5100							
VII. Contact Information															
Owner Contact Clay Peck and Cole Peck						Title Owner									
Address (mailing) 1512 North 1300 East															
City Lehi				State UT		Zip Code 84043		Telephone (801)768-8111							
Email Address Peckrock@live.com						Alternative Telephone (cell or other)				(801)368-3937					
Operator Contact Clay Peck and Cole Peck						Title Owner									
Address (mailing) 1512 North 1300 East															
City Lehi				State UT		Zip Code 84043		Telephone (801)768-8111							
Email Address Peckrock@live.com						Alternative Telephone (cell or other)				(801)368-3937					
Property Owner Contact SITLA						Title Property Owner									
Address (mailing) 675 East 500 South, Suite 500															
City Salt Lake City				State UT		Zip Code 84102		Telephone (801)538-5100							
Email Address Jimdavis1@utah.gov						Alternative Telephone (cell or other)				NA					

Utah Class IV and VI Landfill Permit Application Form

Part I General Information (Continued)																																									
VIII. Waste Types (check all that apply) <input type="checkbox"/> Landfill will accept all wastes allowed in Class IV or VI landfills Or landfill will accept only the following wastes <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Waste Type</td> <td style="width: 33%;">Combined Disposal Unit</td> <td style="width: 33%;">Monofill Unit</td> </tr> <tr> <td><input checked="" type="checkbox"/> Construction & Demolition</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/> Tires</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/> Yard Waste</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Animals</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/> Contaminated Soil</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Other _____</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>Note: Disposal of dead animals must be approved by the Director</p>	Waste Type	Combined Disposal Unit	Monofill Unit	<input checked="" type="checkbox"/> Construction & Demolition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Tires	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yard Waste	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Animals	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Contaminated Soil	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	IX. Facility Area <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">Facility Area.....</td> <td style="width: 10%; text-align: center;">640</td> <td style="width: 10%;">acres</td> </tr> <tr> <td>Disposal Area.....</td> <td style="text-align: center;">10</td> <td>acres</td> </tr> <tr> <td>Design Capacity</td> <td colspan="2"></td> </tr> <tr> <td> Years.....</td> <td style="text-align: center;">30</td> <td></td> </tr> <tr> <td>Cubic Yards.....</td> <td style="text-align: center;">1,000,000</td> <td></td> </tr> <tr> <td>Tons.....</td> <td style="text-align: center;">1,500,000</td> <td></td> </tr> </table>		Facility Area.....	640	acres	Disposal Area.....	10	acres	Design Capacity			Years.....	30		Cubic Yards.....	1,000,000		Tons.....	1,500,000	
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Tons.....	1,500,000																																								

X. Fee and Application Documents			
Indicate Documents Attached To This Application	<input type="checkbox"/> Application Fee: Amount \$	Class VI Special Requirements	
<input type="checkbox"/> Facility Map or Maps <input type="checkbox"/> Ground Water Report	<input checked="" type="checkbox"/> Facility Legal Description <input checked="" type="checkbox"/> Closure Design	<input checked="" type="checkbox"/> Plan of Operation <input type="checkbox"/> Cost Estimates	<input checked="" type="checkbox"/> Waste Description <input checked="" type="checkbox"/> Financial Assurance
<input type="checkbox"/> Documents required by UCA 19-6-108(9) and (10)			
I HEREBY CERTIFY THAT THIS INFORMATION AND ALL ATTACHED PAGES ARE CORRECT AND COMPLETE.			
Signature of Authorized Owner Representative 	Title Owner	Date 04/07/2020	
Name typed or printed Clay Peck	Address 1512 North 1300 East		
Email Address Peckrock@live.com	Alternative Telephone (cell or other) (801)368-3937		
Signature of Authorized Land Owner Representative (if applicable)	Title	Date	
Name typed or printed	Address		
Email Address	Alternative Telephone (cell or other)		
Signature of Authorized Operator Representative (if applicable)	Title Owner	Date 04/07/2020	
Name typed or printed Clay Peck	Address 1512 North 1300 East		
Email Address Peckrock@live.com	Alternative Telephone (cell or other) (801)368-3937		

APPLICATION FOR RENEWAL TO OPERATE A CLASS VI LANDFILL

PART I- FACILITY GENERAL INFORMATION

Ia. GENERAL INFORMATION

1 2 GENERAL DESCRIPTION OF FACILITY (R315-310-3(l)(b))

Peck Rock and Products, with Clay Peck and Cole Peck as Managers with regard to State permitting and management rules 301 through 320, have been operating a Class VI landfill and recycling facility in North Utah County, Utah

There is an existing mining operation of clay and limestone on this property. We have a State mineral lease and rock sales operation on this property and also started as a Class IV b Construction and Demolition landfill. We are applying for our renewal of our Commercial Class VI Construction and Demolition Landfill Permit. The engineering and design and operation of our landfill hasn't changed since we started to operate the landfill. We have used the same original maps and documents for our application.

We will start our landfill in the portion of the clay pits that have been mined out. Some of these holes have been open for over 70 years. We want our operation to assist in the reclamation of this property.

All materials placed in the landfill will be covered on a regular basis We will operate this Class VI landfill according to the rules in R315-301-2(12)(17)

*****See attached Maps & Drawings of the Facility ******

1 3 LEGAL DESCRIPTION OF PROPERTY (R315-310-3(l)(c))

Defined specifically in the lease agreement and deed provided. Generally defined NW 1/4 of the NE 1/4 of Section 3 Township 6 South, Range 1 West and Township 6 South, Range 1 West, SLB&M, & Section 2 SW1/4 SW1/4 NW1/4, W1/2 NW1/4 SW1/4

1 4 PROOF OF OWNERSHIP, LEASE AGREEMENT (R315-310-3(l)(c))

*****See attached Lease Agreement*****

& Deed

- 1 5 **WASTE TYPE & ANTICIPATED DAILY VOLUME(R315-310-3(1)(d))**
The types of waste to be handled at this Class VI Landfill are defined m R315-301-2(17)
This may include but not limited to Construction waste, dirt, asphalt, fencing,
concrete, building demolition, metal, yard waste, inert waste, brick, and green waste. We
anticipate 20 trucks a day.
- 1 6 **INTENDED SCHEDULE OF CONSTRUCTION (R315-302-2(2)(a))**
This is an operating class VI landfill
- 1 7 **DOCUMENTATION THAT THE HISTORICAL SURVEY
REQUIREMENTS OF R315-302-1(2)(f) HAVE BEEN MET
(R315-305-4(1)(b)(v1))**
NIA
- 1 8 **NAME AND ADDRESS OF ALL PROPERTY OWNERS WITHIN 1000
FEET OF THE FACILITY BOUNDARY (R315-310-2(1))**
NIA
- 1 9 **DOCUMENTATION THAT A NOTICE OF INTENT TO APPLY FOR A
PERMIT HAS BEEN SENT TO ALL PROPERTY OWNERS LISTED
ABOVE (R315-310-3(2)(n))**
NIA
- 1 10 **NAME OF THE LOCAL GOVERNMENT WITH JURISDICTION OVER
THE FACILITY SITE (R315-310-3(2)(m))**
Utah Comity

1b. LOCATION STANDARDS

- 1 11 **FLOODPLAINS AS SPECIFIED IN R315-302-1(2)(c)(n)
(R315-305-4(1)(b)(1))**
This location is not within a flood plane area
- 1 12 **WETLANDS AS SPECIFIED IN R315-302-1(2)(d) (R315-305-4(l)(b)(n))**
The Utah Lake elevation is 4483' above sea level, Wetlands are near this elevation. The
Landfill elevation, at the deepest point, is near 4770' above sea level The distance between
the two locations is approx.. 287' in elevation and the Utah Lake is about 2 miles away.

- 1 13 THE LANDFILL IS LOCATED SO THAT THE LOWEST LEVEL OF WASTE IS AT LEAST TEN FEET ABOVE THE HISTORICAL HIGH LEVEL OF GROUND WATER (R315-305-4(1)(b)(iii))
***See attached Maps & Drawings of the Facility ***
- 1 14 GEOLOGY AS SPECIFIED IN R315-302-1(2)(b)(i) AND (iv)
(R315-305-4(1)(b)(iv))
***See attached Maps & Drawings of the Facility ***
- 1 15 MAPS SHOWING THE EXISTING LAND USE , TOPOGRAPHY, RESIDENCES, PARKS, MONUMENTS, RECREATION AREAS OR WILDERNESS AREAS WITHIN 1000 FEET OF THE SITE BOUNDARY
- 1 16 CERTIFICATIONS THAT NO ECOLOGICALLY OR SCIENTIFICALLY SIGNIFICANT AREAS OR ENDANGERED SPECIES ARE PRESENT IN THE SITE AREA
- 1 17 MAPS SHOWING THE LOCATION OF DWELLINGS, RESIDENTIAL AREAS, OTHER STRUCTURES, AND HISTORIC STRUCTURES
- 1 18 LIST OF AIRPORTS WITHIN FIVE MILES OF FACILITY AND DISTANCE TO EACH
There is no airport within five miles

Ic. PLAN OF OPERATIONS (R315-310-3(1)(e))

- 1 19 DESCRIPTION OF ON-SITE WASTE HANDLING PROCEDURES AND EXAMPLE OF FORM USED (R315-302-2(2)(b)) and (R315-310-3(1)(f))
All material will be handled by Peck Rock & Products employees All personnel will be trained as to which areas of the pit are to receive specific types of material All material that cannot be recycled will be placed in the landfill and covered as needed The waste will be completely covered with six inches of soil at least at least every 30 days or more often if necessary to reduce the possibility of fires and to minimize wind blown litter Employees will keep records of volume and types of waste delivered to landfill as well as inspect each load to insure that no improper waste will be dumped at this facility There will be a garbage dumpster on site that any non-approved waste discovered will be placed in and hauled to an approved facility



Daily Inspection of Loads

Date _____

Name of Company

Contents of Load

Inspected by: _____

Driver Name: _____

Total Tons _____

1 20 SCHEDULE FOR INSPECTIONS AND MONITORING (R315-302-2(2)(c)), R315-302-2(5)(a), and R315-310-3(1)(g))

Inspection of landfill will be conducted on a regular basis by the operator, to insure that all personnel understand and follow all operation requirements in R315-302-2(5), a minimum of once a quarter, but more frequently when necessary

INSPECTION AND MONITORING SCHEDULE

Inspection/Monitoring Activity	Frequency
Access Road and Gate	Weekly
Facility Inspection	Quarterly
Landfill equipment maintenance	Per manufacturers recommendations
Closure Final Cover Inspection	During closure activities
Post Closure Inspection/Maintenance	Semi-Annual
Post Closure Monitoring	Semi-Annual

Any deficiencies that are discovered during the inspection or monitoring of the site will be remedied immediately, according to the need or regulations required by DEQ

It is determined that monitoring wells are not required for this facility

1 21 CONTINGENCY PLANS IN THE EVENT OF FIRE OR EXPLOSION (R315-302-2(2)(d))

The site is large enough and free of vegetation to allow for containment of fire in the event that it occurred, Earth moving equipment would be used to suppress fires when possible. Lehi and Saratoga fire departments would be called if a fire was uncontrollable. Estimated response time is 15 minutes See enclosed letter from the Lehi Fire Department.

1 22 PLAN TO CONTROL FUGITIVE DUST AND COVERING OF WASTE (R315-302-2(2)(g))

Recycled asphalt or gravel will be put down on the access road to prevent dust. A water truck will be used to wet the ground in the landfill area to prevent dust problems
Waste piles will be pushed off with a bulldozer or loader. Waste material from screening operation (ie fines) will be used to cover demolition & construction debris

1 23 PLAN FOR LITTER CONTROL AND COLLECTION (R315-302-2(2)(h))

A weekly inspection, or on a more frequent basis if necessary, of the access road and landfill site will be performed. All windblown litter from our operation, if any, will be gathered up and disposed of in the landfill. Waste will be covered at least monthly to prevent it from being blown by the wind.

1 24 PROCEDURES FOR EXCLUDING THE RECEIPT OF HAZARDOUS OR PCB CONTAINING WASTE (R315-302-2(2)(j))

Hazardous materials or material containing PCB's are not allowed within this facility. This is controlled by the limited access, which this facility is operated under. All personnel will be trained to recognize hazardous material and dispose of it properly. All loads that Peck Rock & Product Employees collect and haul will be inspected at time of loading and unloading of material to prevent any hazardous waste. Also, all loads of waste delivered to the landfill by others will be visually inspected as they are unloaded and will be subject to a complete inspection as part of the random inspection program. A thorough inspection of one truck will be performed daily, this will be a random inspection. A record of these inspections will be kept according to UAC R315-303-4(7).

Inspection Sheet

Date & Time	Company	Truck #	Material	Comments /Signature

1 25 PROCEDURES FOR CONTROLLING DISEASE VECTORS (R315-302-2(2)(k))

The facility will be kept clean and free of scattered debris. Waste put into the landfill will be covered regularly at least monthly. The most effective approach for the control of vectors at a C&D landfill is the fact that this type of waste does not provide a food source for vectors and therefore, very few animals that could carry diseases are attracted to these landfills.

1 26 PLAN FOR ALTERNATIVE WASTE HANDLING (R315-302-2(2)(1))

Material that is not acceptable to enter this landfill will be disposed of at an appropriate facility. There is no monitoring equipment at this facility. The landfill area is large enough, that we would have time to rent equipment if there was a breakdown, but if that was needed the landfill would be temporarily closed until the problem was remedied. There are other landfills in the area that waste streams could be directed to.

1 27 GENERAL TRAINING AND SAFETY PLAN FOR SITE OPERATIONS (R315-302-2(2)(o))

All personnel will be trained in CPR and First Aid by a Red Cross certified instructor. This certification is good for 2 years. Peck Rock managers will train employees to recognize unacceptable waste. This training will be completed by all employees and certified as necessary.

Peck Rock & Products will also have safety meetings for all employees.

1 28 ANY RECYCLING PROGRAMS PLANNED AT THE FACILITY (R315-303-4(6))

We also want to incorporate a recycling facility. All materials that can economically be recycled will then be made available for resale. The remaining material will be placed in the landfill.

1 29 ANY OTHER SITE SPECIFIC INFORMATION PERTAINING TO THE OPERATION REQUIRED BY THE EXECUTIVE SECRETARY (R315-302-2(2)(p))

Plans, specifications, and other information that the executive secretary considers relevant to determine whether the proposed nonhazardous or hazardous waste operation plan will comply with this part and the rules of the board.

PART 11-FACILITY TECHNICAL INFORMATION

2 1 TOPOGRAPHIC MAP

See attached Maps

2 2 MOST RECENT U S GEOLOGICAL SURVEY TOPOGRAPHIC MAP

See attached Maps

**lib ENGINEERING REPORT, PLANS, SPECIFICATIONS, AND
CALCULATIONS**

**23 UNIT DESIGN TO INCLUDE COVER DESIGN, FILL METHODS, AND
ELEVATION OF FINAL COVER(R315-310-3(I)(b) and
R315-310-4(2)(c)(m))**

This facility is located in Section 2 and section 3 , 6 south range 1 west. The landfill cell areas are approximately 190 acres. The landfill was started to help reclaim some old clay pits that were mined out about a hundred years ago. This operation helps reclaim them to more usable, future open space. Also the State School Trust receives royalties from this operation. There are areas to expand to in the future that need to be reclaimed.

All material that can be recycled will be put in the stockpile area. Non-recyclable material will be disposed of in the landfill. This area is pushed off and covered with dirt on an as needed basis

The landfill will be brought up to finished elevation, crowning in the center to prevent pooling of water Then capped with 2' of soil which includes six inches of top soil
Vegetation will be planted to cover the entire cell

**2.4 DESIGN AND LOCATION OF RUN-ON AND RUN-OFF
CONTROL SYSTEMS (R315-310-4(2)(c)(11))**

There will be a dirt berm surrounding the landfill to prevent run-on and run-off of water from a 25 year storm In addition the entrance road into the landfill face will have a crown to prevent water from entering into the landfill area Our landfill site is a large hole which would not allow Run Off to escape The water will be contained because of the natural clay liner and allowed to evaporate

**2.5 ANTICIPATED FACILITY LIFE AND THE BASIS FOR
CALCULATING THE FACILITY'S LIFE (R315-310-4(2)(c)(n))**

Twenty years based on average volume and considering construction decline.

**2.6 ENGINEERING REPORTS REQUIRED TO MEET THE
LOCATION STANDARDS OF R315-305-4 INCLUDING
DOCUMENTATION OF ANY DEMONSTRATION OR
EXEMPTION MADE FOR ANY LOCATION STANDARD (R315-
310-4(2)(c)(1))**

NIA

**2.7 IDENTIFICATION OF BORROW SOURCES FOR FINAL
COVER (R315-310-4(2)(c)(1v))**

This will include covering landfill with 18" of soil and 6" of topsoil, Leveling and seeding the area with a seed mix similar to native grasses. The cover material will be produced on-site from screening and recycling operations. There is also areas to get borrow material within the facility. We have mineral and gravel leases within the leased and owned area. As this is a Class VI landfill, liners and monitoring equipment are not required for final closure.

2.8 Design and Location Of Run-On and Run-Off Control Systems (R315-310-5(2)(b))

There will be a dirt berm surrounding the landfill to prevent run-on and run-off of water from a 25 year storm. In addition, the entrance road into the landfill face will have a crown to prevent water from entering into the landfill area. Our landfill is a large hole which will not allow run-off to escape. The Water will be contained because of the natural clay liner and allowed to evaporate.

2.9 Closure Plan (R315-310-3(1)(h) & R315-310-5(2)(c))

We will follow the Closure and Post Closure requirements in section 315-302-3

2.10 Closure Schedule (314-310-4(2)(d)(i))

This Facility has capacity to operate for at least 20 more years. The first landfill cell had a capacity of over 600,000 cubic yards. It is at nearly 50% capacity. We have designated other future landfill cells for our operation. Future growth and the economy will ultimately determine the life of the landfill.

2.11 Design of Final Cover (315-310-4(2)(c)(iii) and R315-305-5(5))

At final closure the landfill will be closed as per applicable requirements of the State of Utah and Utah County. This will include covering the landfill with 18” of dirt and 6” of topsoil.

Leveling and seeding the area with a seed mix similar to native grasses. The cover material will be produced onsite. There is areas to get borrow material within our operation.

This is a class VI landfill and liners and monitoring equipment are not required for final closure.

2.12 Capacity of site in volume and Tonnage (R315-310-4(2)(d)(iii))

The initial landfill cell has a capacity of over 600,000 cubic yards. At an average weight of 1.5 ton per yard, this would equate to 900,000 ton of material. Our landfill cell (Site B) has Over 600,000 Ton capacity, however each type of waste will weigh differently per ton

2.13 Final Inspection By Regulatory Agencies (315-310-4(2)(d)(iii))

Final Closure of the facility will be conducted as per regulation (R315-302-3(4)). This will Include notification to the Executive Secretary that closure of this facility is intended, as well as notification and appropriate documentation that closure has been completed.

Notification will also be given to Utah County.

II.d. POST –CLOSURE REQUIREMENTS

2 14 POST-CLOSURE CARE PLAN (R315-310-3(1)(h))

We will follow the Closure and Post Closure requirements in section 315-302-3

2 15 SITE MONITORING (R315-310-3-(1)(h))

Site monitoring will be semi-annual. Any deficiencies or problems will be corrected to DEQ Regulations such as, but not limited to fencing/gates, soil cover, vegetation

2 16 CHANGES TO RECORD OF TITLE, LAND USE, AND ZONING RESTRICTIONS (R315-310-4(2)(e)(ii))

Upon closure, "Plats and a statement of Fact" concerning this facility will be recorded as a part of the record of title with the Utah County Recorder. At the time of closure a determination will be made if changes to the title, land use and zoning are required. If such action is deemed necessary, steps will be taken to assure proper compliance with appropriate regulations.

2 17 MAINTENANCE ACTIVITIES TO MAINTAIN, COVER AND RUN-ON/RUN-OFF CONTROL SYSTEMS (R315-310-4(2)(e)(iii))

As this facility is operated as a Class VI landfill only construction debris will be allowed into facility. This will minimize any danger arising from Run-on / Run-off from this facility. The area will be seeded to minimize the effects of erosion from within the facility.

2 18 LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PERSON OR OFFICE TO CONTACT ABOUT THE FACILITY DURING THE POST-CLOSURE CARE PERIOD (R315-310-4(2)(e)(vi))

Any questions or concern during the post-closure care period should be directed to

Peck Rock & Products
268 East 360 South
Lehi, Utah 84043
Telephone # 801-768-4139
Att: Clay Peck

He. FINANCIAL ASSURANCE (R315-310-3(l)(j))

2.19 IDENTIFICATION OF CLOSURE COSTS INCLUDING COST CALCULATIONS (R315-310-4(2)(d)(iv))

Closure costs for this facility have been determined to be \$41,800.00 This includes management of project, cost of cover material, spreading topsoil and seeding the landfill

area. We have a Bank Letter of Credit posted with DEQ for our existing Class VI Landfill.

COST ESTIMATE FOR CLOSURE CONSTRUCTION:

ITEM	UNIT	\$/UNIT	#UNITS	COST	TOTAL
Survey		1000.00	1	\$2500.00	\$2500.00
Contract Admin.		10%		\$2000.00	\$2000.00
Project management				\$4000.00	\$4000.00
Place Cover Material	cyd	\$4.00	6500	\$26,000.00	\$26,000.00
Re-vegetation	Acre	\$200.00	10	\$3000.00	\$3000.00
1% Perf Bond		1%		\$500.00	\$500.00
10% contingency fee		10%		\$3800.00	\$3800.00
Total					\$41,800.00

2.20 IDENTIFICATION OF POST-CLOSURE CARE COSTS INCLUDING COST CALCULATIONS (R315-310-4(e)(iv))

Post-closure care for this facility will include a semiannual inspection of the facility for the duration of the post-closure period. The inspection will identify any areas of deficiency, which may need correction, this may include: significant areas of settlement. We operate a gravel pit at this location and have dirt and topsoil onsite, which reduces our post closure costs. This also includes a budget for miscellaneous items like fence and gate repair, run-on/run-off control.

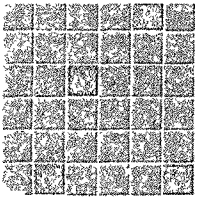
POST CLOSURE CARE / PECK ROCK & PRODUCTS

ITEM	UNIT	\$/UNIT	#UNITS	COST
Semiannual inspection	Year	\$400.00	30	\$12,000.00
Place topsoil	cyd	\$10.00	100	\$2,000.00
Miscellaneous	1	1	1	\$4000.00
Total				\$18000.00

THE POST-CLOSURE CARE COST WILL BE INCLUDED IN THE SURETY BONDING FOR CLOSURE

2.21 IDENTIFICATION OF THE FINANCIAL ASSURANCE MECHANISM THAT MEETS THE REQUIREMENTS OF THE RULE R315-309 AND THE DATE THAT THE MECHANISM WILL BECOME EFFECTIVE (R315-309-1(1))

Peck Rock & Products will post a Solid Waste Permitting and Management Bond or Bank Letter of Credit as approved by the Division of Solid and Hazardous Waste. The financial assurance will be posted upon acceptance of this Class VI Landfill permit application. At this time we have a bank letter of credit for our existing Class IV b landfill, which should meet the requirements for the Class VI Landfill as well. We also have a reclamation bond for \$190,000.00 posted with Utah Division of Oil Gas and Mining for the remainder of the mining operation.



State of Utah
School & Institutional
Trust Lands Administration

Gary R. Herbert
Governor

Spencer J. Cox
Lieutenant Governor

David Ure
Director

675 East 500 South, Suite 500
Salt Lake City, UT 84102-2813
801-538-5100
801-355-0922 (Fax)
www.trustlands.utah.gov

May 30, 2017

Certified Mail No: 7005 3110 0000 8388 4505

Clay Peck & Cole Peck
DBA Peck Rock & Products, LLC
1512 North 1300 East
Lehi, UT 84043

**RE: Special Use Lease Agreement No. 1204
Amendment No. 4 Completed**

Gentlemen:

Enclosed for your file please find a fully executed original of the above-referenced amendment to the lease agreement.

If you have any questions or concerns, please feel free to contact me at 801-538-5162 or via email at jimdavis1@utah.gov.

Sincerely,

Jim Davis
Resource Specialist

Enclosures

**AMENDMENT NO. 4 TO
SPECIAL USE LEASE AGREEMENT NO. 1204**

Fund: School

This AMENDMENT NO. 4 TO SPECIAL USE LEASE AGREEMENT NO. 1204 ("**Amendment**") is entered into as of this 23rd day of May 2017, by and between the STATE OF UTAH, acting by and through the SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION, 675 East 500 South, Suite 500, Salt Lake City, Utah, 84102, ("**Lessor**"), and Peck Rock and Products, LLC, 1512 North 1300 East, Lehi, UT, 84043 ("**Lessee**"). Lessor and Lessee are sometimes collectively referred to as "the parties".

RECITALS

- A. Lessee entered into Special Use Lease No. 1204 ("**Lease**"), effective May 1, 2000, for the purpose of operating an industrial landfill.
- B. On April 5, 2004, SULA No. 1204 was amended ("**Amendment No. 1**") to change the purpose of the lease to allow for a Class VI commercial landfill facility to be operated under the lease and to reflect an increase in the rental and royalty rates.
- C. Effective May 1, 2005, SULA No. 1204 was amended ("**Amendment No. 2**") to change the rental and royalty rates Lessee pays under the lease.
- D. Effective December 20, 2005, SULA No. 1204 was again amended ("**Amendment No. 3**") in order to delete a portion of land from SULA No. 1204.
- E. Lessor and Lessee now desire to amend SULA No. 1204 a fourth time ("**Amendment No. 4**").

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and of other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Lessor and Lessee hereby enter into this Amendment No. 4 as follows:

AGREEMENT

- 1. Effective Date of Amendment. This Amendment shall be effective April 30, 2017.
- 2. Legal Description. The legal description of the Premises as set forth in the Lease is hereby deleted and replaced in its entirety with the description contained on Exhibit "A".
- 3. Term of Lease. The lease is extended for a term of ten years until April 30, 2027, subject to the early termination provision in paragraph 4 below.
- 4. Early Termination. At any time after May 1, 2024, either party may

terminate the Lease by giving one year's written notice to the other party.

5. Rental and Royalty. The rental and royalty provisions as set forth in Amendment No. 2 are hereby amended such that the minimum annual royalty payment in the amount of fifty thousand dollars (\$50,000.00) shall be payable in full by May 31 of each year during the lease term.

6. Annexation into Saratoga Springs Contemplated. Lessee acknowledges that the Premises will likely be proposed for annexation into the City of Saratoga Springs. Lessee agrees it will not object in any way to such annexation.

7. Lessor's Support of Continued Operations. Provided that Lessee has been diligent in its operations and in observing all terms of the Lease, Lessor will work in good faith with Lessee and city or county governments during the annexation process to support Lessee's ability to continue to operate the landfill.

8. Miscellaneous. Except as expressly modified by the provisions of this Amendment, the Lease shall continue in full force and effect. All initial capitalized terms in this Amendment shall have the same meaning given such terms in the Lease, unless otherwise defined in this Amendment. In the event any inconsistencies exist between the terms of this Amendment and the Lease, this Amendment shall control. The individuals who execute this Amendment represent and warrant that they are duly authorized to execute this Amendment on behalf of the Lessor and Lessee, as the case may be, and the Parties named are all of the parties and proper parties, and that no other signature, act or authorization is necessary to bind such entities to the provisions of this Amendment.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have caused this Amendment No. 1 to SULA 1496 to be executed as of the date set forth in the first paragraph herein.

LESSOR: STATE OF UTAH
SCHOOL AND INSTITUTIONAL
TRUST LANDS ADMINISTRATION

By: David Ure
DAVID URE, Director

LESSEE: PECK ROCK AND PRODUCTS, LLC

By: Clay T. Peck
Its: Managing Member

APPROVED AS TO FORM:
SEAN D. REYES
ATTORNEY GENERAL

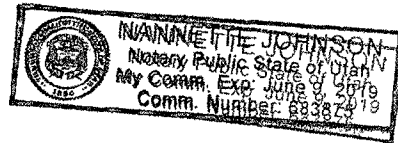
By: Josephine S. Kelly
Special Assistant Attorney General

STATE OF UTAH)
 : §
COUNTY OF SALT LAKE)

The foregoing instrument was acknowledged before me this 23 day of May, 2017, by David Ure, in his capacity as Director of the School and Institutional Trust Lands Administration.

Seal:

Mannette Johnson
Notary Public



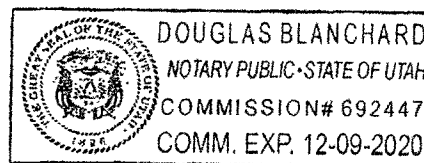
STATE OF Utah)

: ss.

COUNTY OF Utah)

The foregoing instrument was acknowledged before me this 17 day of May, 2017, by Clay Beck in his/her capacity as Manager Member of the Lessee.

Seal:



Do B
Notary Public

Exhibit "A"
Legal Description of the Leased Premises

Township 6 South, Range 1 West, Sec.3 SLB&M

Lots 1 and 2, SW4NE4, SE4NE4 less the following metes and bounds;

A parcel of land situated in the northeast quarter of section 3, T.6S, R.1W., of the Salt Lake base and Meridian, Saratoga Springs, Utah County, State of Utah, and being more particularly described as follows:

Basis of Bearings:

The north line of the northeast quarter of section 3, T.6S., R.1W., Salt Lake Base and Meridian, monumented on the west by a 2" brass cap, stamped Utah County, and on the east by a 3" brass cap, stamped Utah County, and is considered to bear S89°44'27"E.

Commencing at the northeast corner of said section 3, thence N89°44'27"W, a distance of 298.56 feet to a point on the west line of Landrock Connection Plat 2, and being the Point of Beginning.

Thence S10°42'40"W along said west line of Landrock Connection Plat 2, a distance of 296.88 feet to a point on the west line of Landview Drive Plat;

Thence S01°28'56"W, along the west lines of Landview Drive Plat and Landrock Connection Plat 3, a distance of 245.54 feet to the southwest corner and south line of the Landrock Connection Plat 3 and a non-tangent point of curvature;

Thence along said south line and along said curve to the right having a radius of 2128.00 feet, a central angle of 11°06'57", a distance of 412.84 feet, a chord bearing of S60°07'31"E with a chord distance of 412.20 feet to a point on the west line of the Landrock Estates Plat 1;

Thence S00°12'21"W along the west line of Landrock Estates Plat 1, a distance of 187.24 feet to a non-tangent point of curvature;

Thence along said curve to the left, having a radius of 1978.00 feet, a central angle of 17°39'41", a distance of 609.72 feet, a chord bearing of N60°16'06"W with a chord distance of 607.31 feet;

Thence N69°05'57"W, a distance of 929.40 feet to a point of curvature;

Thence along said curve to the right, having a radius of 2250.00 feet, a central angle of 16°04'28", a distance of 631.24 feet, a chord bearing of N61°03'43"W with a chord distance of 629.17 feet to a point on the south line of The Benches Subdivision Plat 13;

Thence S89°44'27"E along the south lines of The Benches Subdivision Plat 13, The Benches Subdivision Plat 9, The Benches Subdivision Plat 5, Rimmer Plat Amendment and The Benches Subdivision Plat 6, a distance of 1651.02 feet to the Point of Beginning.

Said parcel contains 683,606 square feet or 15.693 acres more or less.

Total lease acres: 139.347 acres



Cole and Clay Peck

COMPANY NAME _____

PROJECT NAME _____

JOB NUMBER _____

INVOICE NUMBER

№ 3043

DATE _____

TIME	TRUCK NUMBER	TYPE OF MATERIAL	NO OF LOADS GROSS WEIGHT	VEHICLE WEIGHT	NET WEIGHT	TONS	ACCUMULATIVE WEIGHT
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
25							
TOTAL							

COLE PECK
 Cell 801-367-3939
 Res 801-768-8111



CLAY PECK
 Cell 801-368-3937
 Res 801-768-4139

5201 North 12199 West • Utah County

No 36336

DELIVERY DATE	LEAVE PLANT	ARRIVE JOB	LEAVE JOB	MINIMUM LOAD
TIME				

COMPANY NAME _____

ADDRESS _____

CITY _____ PHONE _____

JOB LOCATION/ NUMBER	TRUCK NUMBER	METHOD OF PAYMENT
		<input type="checkbox"/> VISA <input type="checkbox"/> MC <input type="checkbox"/> CHECK <input type="checkbox"/> CASH

QUANTITY	PRODUCT CODE	PRODUCT DESCRIPTION	UNIT COST	AMOUNT
		TONS		
GROSS WEIGHT	TARE WEIGHT	NET WEIGHT		

We Appreciate Your Business!

SALES TAX	
PLEASE PAY THIS AMOUNT.	

NOTICE TO BUYER/OWNER. Failure of this Contractor to pay those persons supplying material or services to complete this contract can result in the filing of a Mechanics Lien on the property which is the subject of this contract pursuant to Utah Code Annotated Sect 38 1 1 et seq. If filed a \$100 00 mechanic's lien fee will be levied. To avoid this result you may ask this contractor for Lien Waivers from all persons supplying material or services for the work described in this contract. Failure to secure Lien Waivers may result in your paying for labor and material twice.

SALES CONTRACT TERMS. Payment in full is due by the 30th day of each month following the invoice date. In the event payment is not made when due, I or we agree to pay reasonable collection fees, lien fees, and attorney fees with or without suit together with 1 1/2% per month FINANCE CHARGE which is an ANNUAL PERCENTAGE RATE of 18% until paid. Signature by buyer/owner/agent or receipt of material constitutes acceptance of above including Peck Rock Company standard credit terms.

HAZARDOUS AND HOUSEHOLD WET WASTE. This landfill is for CONSTRUCTION WASTE ONLY. No hazardous or household wet waste will be accepted. By signing this invoice you certify no hazardous or household wet waste in your load. If hazardous or household wet waste is found in your load you agree to pay for all clean up and removal of waste.

THE UNDERSIGNED acknowledges that he/she is the Buyer or an authorized agent for the buyer and agrees on behalf of the Buyer to all the terms and conditions set forth herein. Refusal to sign this delivery ticket BUT acceptance of material constitutes agreement with terms and conditions above.

Rec'd by _____ Date _____



**PECK ROCK & PRODUCTS
INSPECTION REPORT**

Type of Inspection: Dady / Weekly / Monthly / Quarterly / Semiannually (circle one)

Performed by: _____ Date: _____

	Overall Condition	
	Satisfactory	Needs Work*
1 Structures & Roads		
Fences & Gates	/	
Access Roads	/	
Ditches	/	
Screenng Berm	/	
2 Landfill Operations		
Fence & Gates	/	
Litter Control	/	
Protective Cover	/	
Daily Cover	/	
Intermediate Cover	/	
Fmal Cover	/	
Equipment	/	
Stormwater Ditches	/	
3. Leachate Pond		
Fence & Gates	/	
Depth Gage	/	
Liner System	/	
Influent Pipe	/	
Gravity Sewer	/	
4. Monitoring Facilities		
Weed Control	/	
Groundwater Wells	/	
Gas "Wells"	/	

- Specify the work needed and the timeframe

Other Comments:

**PECK ROCK & PRODUCTS
CLASS VI LANDFILL**

INSPECTION REPORT

DATE _____

INSPECTOR _____

SATISFACTORY

UNSATISFACTORY

*Water Run on-Run off

*Fence Lines/Gates

*Waste Handling

* Cover of Waste

Corrective Action Required

Comments

Signature _____



Daily Inspection of Loads

Date _____

Name of Company

Contents of Load

Inspected by _____

Driver Name _____

Total Tons _____



Lehi Fire Department

176 North Center
Lehi, Utah 84043
768-7130

January 9, 2004

TO: The Division of Solid & Hazardous Waste
FROM: Lehi Fire Department
RE: Peck Rock and Products construction landfill

To whom it may concern.

The company Peck Rock and Products has approached the Lehi Fire Department about the construction and demolition landfill that they currently own, located at Township 6 south Range 1 west section 3 in Utah County jurisdiction. We have advised them that we are in mutual aid with the Utah County and Saratoga Springs and would respond to this site if any emergency were to arise.

I have talked with the owners and we are both with the understanding that this landfill will be used for construction materials and demolition purposes only. They will not be allowed to store any hazardous materials of any kind in this landfill.

Respectfully,

Dale Ekins, Chief
Lehi Fire Department

November 5, 2003

Division of Solid & Hazardous Waste
Attn Mr Carl Wadsworth
P O Box 144880
Salt Lake City, Utah 84114-4880

RE 30-year population growth expectancies for cities within a 30 mile radius of the proposed Class VI Landfill in Saratoga Springs, Utah

Dear Mr Wadsworth,

Mr Clay Peck of Peck Rock Products, Inc has asked me to evaluate the 30-year population growth expectancies for cities within a 30 mile radius of his proposed Class VI Landfill in Saratoga Springs, Utah I have researched data provided by the Mountainland Association of Government (MAG), and other related existing landfill data in response to his request My conclusions are shown below

- 1) Within Utah County, about twelve cities are considered to be within a 30-mile radius of the proposed Class VI Landfill in Saratoga Springs The Average Annual Rate of Change (AARC) of these twelve cities is 3.79%, with Orem being the lowest at 0.67% AARC, and Saratoga Springs being the highest at 11.08% AARC Study of this data also indicates that many of the closest cities to this proposed landfill are projected to double or triple in population by the year 2030 The City of Saratoga is the closest city in proximity to this landfill, and the MAG information indicates that by the year 2030 the City of Saratoga is expected to increase its population to be over twenty times its year 2000 population
- 2) Within Salt Lake County, about five cities are considered to be within a 30-mile radius of the proposed Class VI Landfill in Saratoga Springs The AARC of these five cities is 5.28% with Draper (pt) being the lowest at 2.40%, and Herriman being the highest at 9.10% Draper, Riverton, and South Jordan Cities are expected to more than double in population by the year 2030 Bluffdale and Herriman cities are expected to increase in population to be over ten times the year 2000 population
- 3) In the early 1990's the Lindon Solid Waste Transfer Station began operation It is my understanding that during the first year of operation, approximately 80,000 Tons of waste was disposed of Last year the Lindon Solid Waste Transfer Station disposed of over 200,000 Tons of waste

In conclusion, the MAG information indicates that a large amount of growth is expected within the southern portion of Salt Lake County and the northern portion Utah County Based on this information, and the applicable Solid Waste Transfer Station information, it appears very likely that an additional landfill will be needed within northern section of Utah County within the very near future

I have attached a copy of the Utah Municipal / County Population Projections data for Salt Lake and Utah Counties I have also shaded in yellow the cities within each of these counties that appear to be within a 30-mile radius of your proposed landfill site Please feel free to call me if you have any questions concerning this information

Sincerely,



Brad A. Kemson, P.E.

Q:\2003\03135-PECK ROCK\Correspondence\30-year growth expectancy doc

Utah Municipal/County Population Projections

Governors Office of Planning and Budget / MPO's / COG's - Utah

Population - 2000 / 2010 / 2020 / 2030

Source: GOPB & State Association of Governments

Listed by County

Utah County data produced August 2002

Summit & Wasatch Counties data produced March 2003

All other counties data produced January 2000

COUNTY	Type	2000	2010	2020	2030	ANNUAL
SALT LAKE	COUNTY	848,083	1,028,508	1,223,218	1,383,907	1.60%
Alta	town	410	497	591	669	1.60%
Bluffdale	city	4,455	10,825	28,782	48,328	8.30%
Draper (pt)	city	19,862	31,133	35,957	40,123	2.40%
Herriman	City	1,060	2,397	5,929	14,519	9.10%
Holladay	City	14,256	14,812	16,842	18,956	1.00%
Midvale	city	26,688	27,924	31,972	36,238	1.00%
Murray	city	34,151	39,483	41,015	41,778	0.70%
Riverton	city	26,849	63,226	70,981	75,057	3.50%
Salt Lake City	city	172,930	177,641	182,599	187,783	0.30%
Sandy	city	101,531	118,161	121,032	124,030	0.70%
South Jordan	city	32,320	49,958	70,433	81,729	3.10%
South Salt Lake	city	18,084	19,473	21,621	22,991	0.80%
Taylorsville	city	53,974	59,883	67,367	71,907	1.00%
West Jordan	city	63,893	106,513	133,872	145,614	2.80%
West Valley City	city	103,753	121,631	142,683	148,834	1.20%
Salt Lake	uninc	173,868	184,954	251,542	325,353	2.10%
UTAH	COUNTY	368,536	503,039	615,480	689,586	2.11%
Alpine	city	7,146	9,874	11,752	15,675	2.65%
American Fork	city	21,941	27,787	32,573	35,583	1.62%
Cedar Fort	town	341	500	632	738	2.61%
Cedar Hills	town	3,094	6,807	9,663	10,133	4.03%
Draper (pt)	city	0	4758	7,833	10,448	4.01%
Eagle Mountain	town	2,157	9,758	16,756	22,770	8.17%
Elk Ridge	town	1,838	3,093	4,391	5,024	3.41%
Genola	town	965	1,565	2,392	4,744	5.45%
Goshen	town	874	1,250	1,682	1,970	2.75%
Highland	city	8,172	14,940	20,120	23,564	3.59%
Lehi	city	19,028	31,302	44,437	48,975	3.20%
Lindon	city	8,363	10,711	11,918	13,020	1.49%
Mapleton	city	5,809	9,403	14,928	20,990	4.38%
Orem	city	84,324	98,039	100,020	103,000	0.67%
Payson	city	12,716	20,808	27,750	30,583	2.97%
Pleasant Grove	city	23,468	27,334	30,415	33,226	1.17%
Provo	city	105,166	118,607	130,814	134,687	0.83%
Salem	city	4,372	7,351	12,101	17,016	4.63%
Santaquin	city	4,834	9,822	16,865	24,263	5.52%
Saratoga Springs	town	1,003	8,993	18,005	23,450	11.08%
Spanish Fork	city	20,246	27,693	32,745	35,771	1.92%
Springville	city	20,424	28,866	34,132	37,286	2.03%
Wineyard	town	150	968	4056	5703	12.89%
Woodland Hills	town	941	1,891	3,247	4,014	4.95%
Utah	uninc	11,164	23,121	26,253	26,953	2.98%

November 10, 2003

Division of Solid & Hazardous Waste
 Attn Mr Carl Wadsworth
 P O Box 144880
 Salt Lake City, Utah 84114-4880

RE Anticipated groundwater impacts on the proposed Class VI Landfill in Saratoga Springs, Utah

Dear Mr Wadsworth,

Mr Clay Peck of Peck Rock Products, Inc has asked me to perform a brief evaluation of the anticipated impact that groundwater may have on his proposed Class VI Landfill in Saratoga Springs, Utah

I have researched the approximate elevation of Utah Lake and the well-drillers logs for four of the wells near this proposed landfill site This information has been shown in graphic form on sheet 2 of 7 of the Peck Rock Class VI Landfill Permit Drawings, and is being shown in tabular form below

Point Number	Existing Ground Elevation	Approximate Groundwater Elevation	Depth to Groundwater
Utah Lake	n/a	4483'	n/a
Well no 1	4568'	4496'	72'
Well no. 2	4545'	4457'	88'
Well no 3	4570'	4495'	75'
Well no 4	5790'	5626'	164'
Landfill Site A	4855' (top) 4755' (bottom)	Groundwater Anticipated at 95' depth	No Groundwater Encountered Site Excavated to approx 100' depth
Landfill Site B	4870' (top) 4815' (bottom)	Groundwater Anticipated at 95' depth	No Groundwater Encountered Site Excavated to approx 55' depth

By comparing the existing ground elevations to the approximate groundwater elevations at each point, an approximate groundwater elevation profile can be developed for this area Based on this anticipated groundwater elevation profile, it can be deduced that the groundwater elevation at the most-western

768 E Utah Valley Drive
 American Fork UT 84003
 Telephone 801 756 8888
 Facsimile 801 756 8881
 www.civilscience.com

end of the Landfill Site A should be approximately 4765' (see attached Ground Water Profile exhibit) However at the deepest point, Landfill Site A was excavated to an approximate depth of 4755', with no trace of groundwater

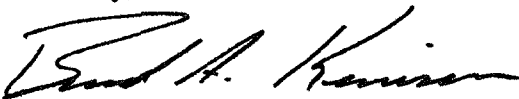
Likewise, the anticipated groundwater elevation for Landfill Site B is 4775' Landfill Site B has been excavated to an approximate depth of 4815', and no groundwater has been encountered

Mr Clay Peck has indicated that during the excavation of this pit, that the soil strata generally consisted of 10'- 15' thick clay layers (with some layers approaching a thickness of nearly 30') inter-bedded with 2'-4' thick layers of rock, sloping east to west (towards the hillside)

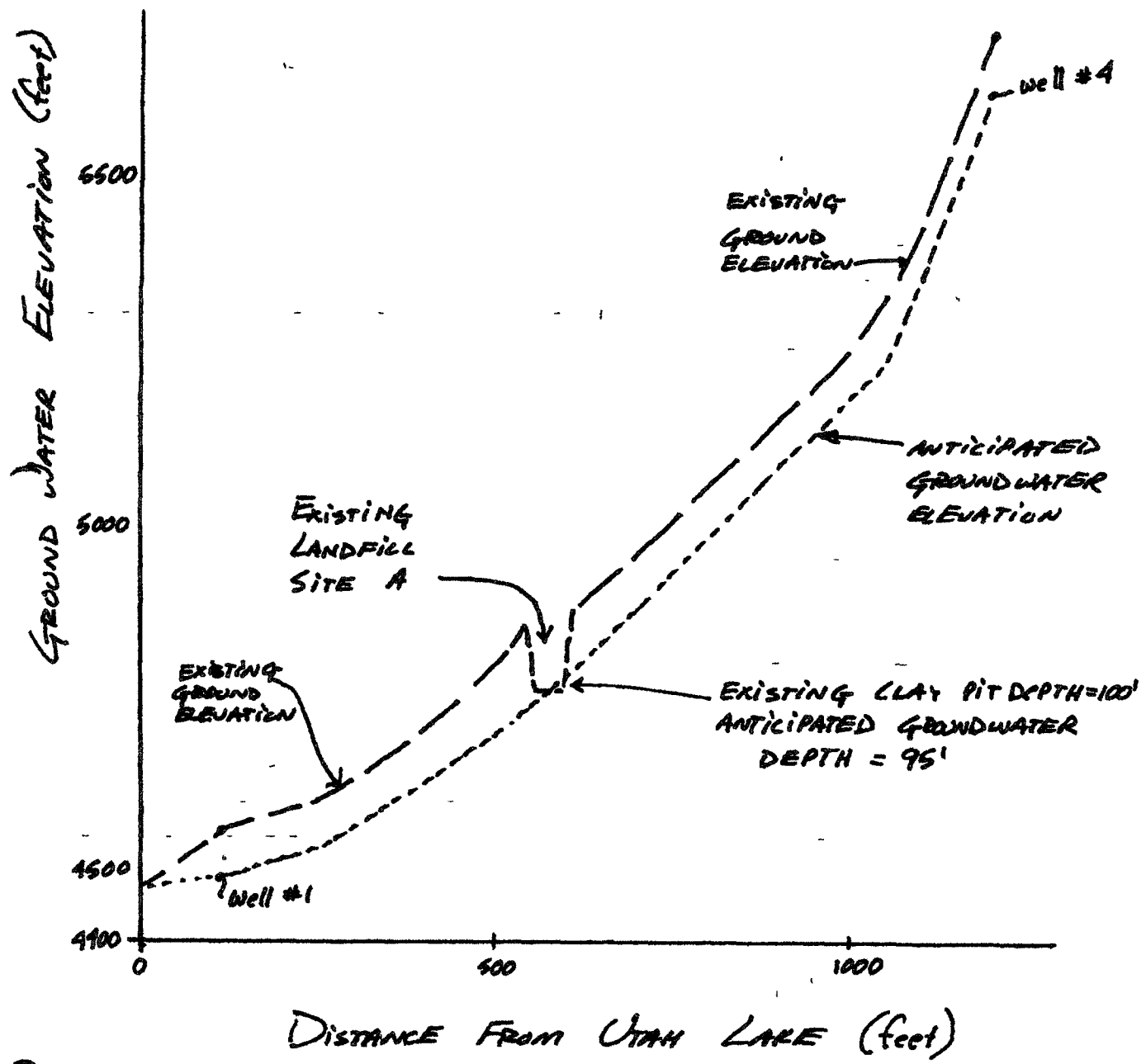
In conclusion, it appears that the thick clay layers surrounding these proposed landfill sites have kept the surrounding groundwater at a lower elevation than would be normally expected It would also seem that these same clay layers would keep any possible landfill contaminants from negatively affecting the surrounding groundwater because these contaminants could not easily travel through the clay layers beneath the existing pit

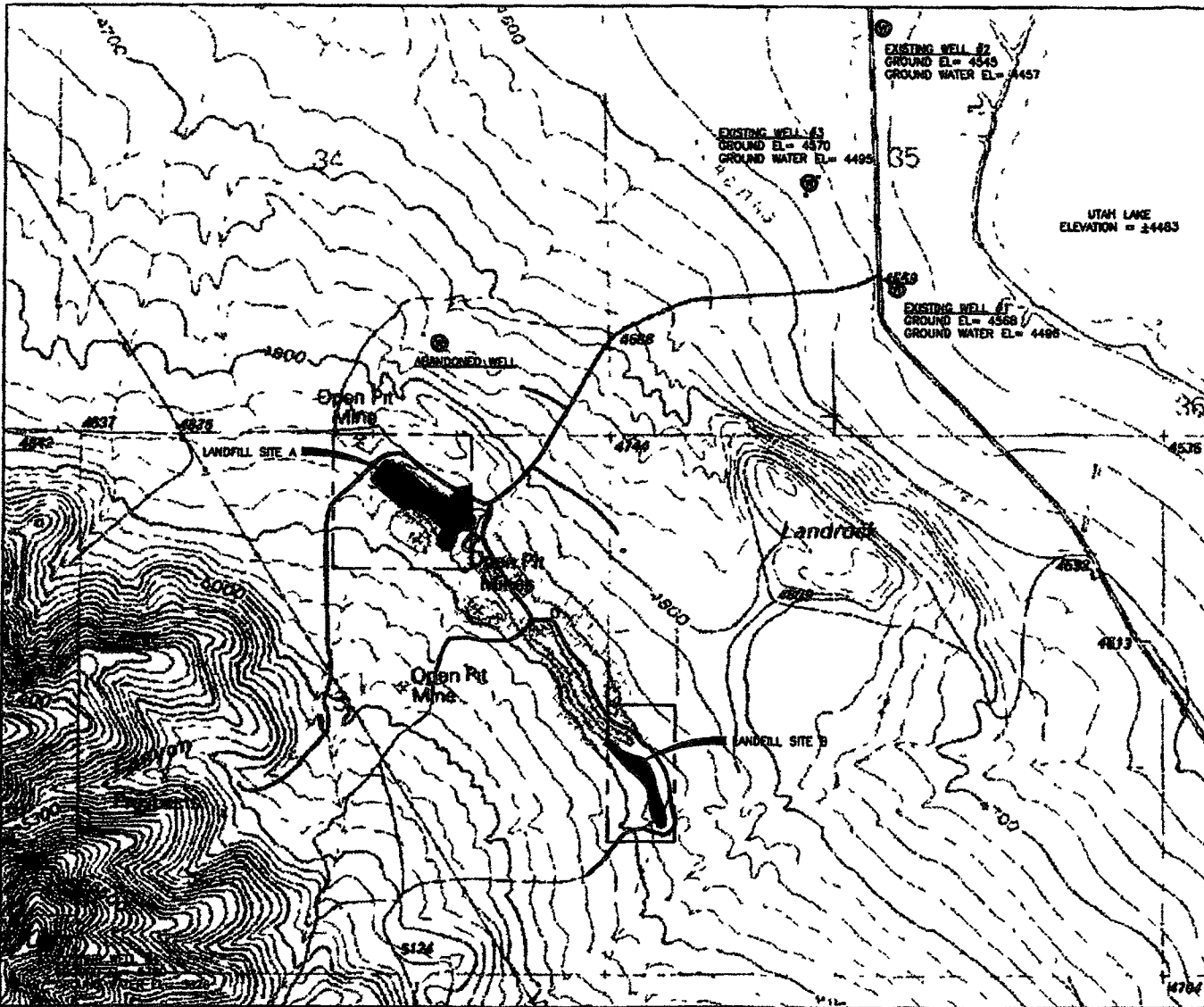
Accompanying this letter, I have attached the above-mentioned Groundwater Elevation Profile and Sheet 2 of 7 of the Permit Drawings Please feel free to call me if you have any questions concerning this information

Sincerely,

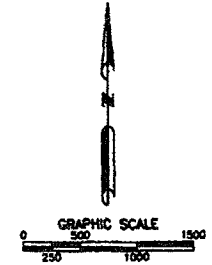


Brad A Kenison, P E





UTAH LAKE
ELEVATION = 24483



PROJECT DESCRIPTION

LANDFILL SITE A.

ENCOMPASSING THE NORTHWEST 1/4 OF THE NORTH
EAST 1/4 OF SECTION 3 TOWNSHIP 6 SOUTH
RANGE 1 WEST SALT LAKE BASE & MERIDIAN

LANDFILL SITE B

ENCOMPASSING THE WEST 1/2 OF THE WEST 1/4 OF
THE SOUTHWEST 1/4 OF SECTION 2 TOWNSHIP 6
SOUTH RANGE 1 WEST SALT LAKE BASE & MERIDIAN

0:\PROJECTS\03135-PECK ROCK CLASS VI LANDFILL\03135-01\03135-01.DWG 11/16/2003 4:03:21 PM MST

NO.	REVISIONS	BY	DATE

DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

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CIVIL SCIENCE
 788 East Utah Valley Drive
 Alpinetown, UT 84002
 PHONE 801-226-0000 FAX 801-226-0000

PECK ROCK CLASS VI LANDFILL
SITE VICINITY MAP WITH WELL LOCATIONS

PROJECT NO
03135
 SHEET NO
2 OF
 FILE NAME: 03135-01-01.dwg

WELL DRILLER'S REPORT

State of Utah
Division of Water Rights

For additional space, use "Additional Well Data Form" and **RECEIVED**

Well Identification

PROVISIONAL WELL: 93-54-001-P-01

AUG 23 1993

Owner

Note any changes

Jacobs, Joseph K.
10863 North 5920 West
Highland, UT 84003

WATER RIGHTS
SALT LAKE

Contact Person/Engineer

Well Location

Note any changes

NORTH 1440 feet EAST 200 feet from the S $\frac{1}{4}$ Corner of SECTION 35, TOWNSHIP 5S, RANGE 1W, SLB&M.

Location Description (address, proximity to buildings, landmarks, ground elevation, local well #)

Drillers Activity

Start Date 8-13-93

Completion Date 8-17-93

Check all that apply

New Repair Deepen Abandon Replace Public Nature of Use

DEPTH (feet) FROM	TO	BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0	145'	6"	Air Rotary	AIR

Well Log	DEPTH (feet) FROM	TO	WATER	PERMEABLE	UNCONSOLIDATED					ROCK TYPE	COLOR	DESCRIPTIONS AND REMARKS (include comments on water quality if known)
					CLAY	SAND	GRAVEL	COBBLES	OTHER			
	0	10'	X	X	X						TAN	
	10'	12'	X			XX					II	
	12'	65'	X			XX					II	
	65'	100'	X			XX					II	
	100'	114'			XX	X					II	
	114'	116'			XX						II	
	116'	118'	X			X					II	
	118'	140'	XX					X	Limestone	Blue		Red and Blue Limestone + Clay.
	142	145	XX						II			

Static Water Level

Date 8-17-93 Water Level 72' feet Flowing? Yes No
 Method of Water Level Measurement STRING If Flowing, Capped Pressure _____ PSI
 Point to Which Water Level Measurement was Referenced GROUND
 Height of Water Level reference point above ground surface 0 feet Temperature °C °F

Well Log

Construction Information

DEPTH (feet)		CASING			DEPTH (feet)		SCREEN <input type="checkbox"/>	PERFORATIONS <input checked="" type="checkbox"/>	
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM (in)	FROM	TO	SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
0	106'	steel	1.282	6 5/8"	85'	145'	1/16 X 6'		4 Rows
85'	145'	PVC sec-40		4 1/2"					

Well Head Configuration Water tight cap Access Port Provided? Yes No
 Casing Joint Type Welded Perforator Used SAW

DEPTH (feet)		FILTER PACK / GROUT / PACKER / ABANDONMENT MATERIAL		
FROM	TO	ANNULAR MATERIAL ABANDONMENT MATERIAL and/or PACKER DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs/gal # bag mix gal./track etc)

Well Development / Pump or Bail Tests

Date	Method	Yield	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hr & min)
			OPM	CFS		
8-17-93	Pump	35	X			1-Hr

Pump (Permanent)

Pump Description GRUNDFOS Horsepower 1 1/2 Pump Intake Depth 130' feet
 Approximate maximum pumping rate 35 Well disinfected upon completion? Yes No

Comments Description of construction activity, additional materials used problems encountered, extraordinary circumstances, abandonment / procedures Use additional well data form for more space

Well Driller Statement This well was drilled or abandoned under my supervision, according to applicable rules and regulations and this report is complete and correct to the best of my knowledge and belief

Name Miller Drilling Inc License No. 292
 Signature Everett H Miller Date 8-17-93
 (Licensed Well Driller)

7

Examined _____
Revised B C _____ T B _____
In _____ Sheet _____
Copied _____

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. 54-108
Claim No. U 78485
Coordinate No. _____

GENERAL STATEMENT Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER HAROLD & FLORENCE MENDENHALL ESTATE
Address Lehi, UT 84043

(12) WELL TESTS Drawdown is the distance in feet the water level is lowered below static level
Was a pump test made? Yes No If so by whom: _____
Yield _____ gal./min with _____ feet drawdown after _____ hours

(2) LOCATION OF WELL
County UTAH Ground Water Basin _____
Name 2816 feet, 684 feet from N 1/4 Corner
South _____ West _____
of Section 35 - 5 - 1 BLM (strike out words not needed) USM

Boiler test 14 gal/min with NO feet drawdown after 2 hours
Artesian flow _____ g.p.m. Date _____
Temperature of water 67° Was a chemical analysis made? No Yes

(8) NATURE OF WORK (check) New Well
Replacement Well Deepening Repair Abandonment
If abandonment, describe material and procedure: _____

(13) WELL LOG Diameter of well 6 inches
Depth drilled 147 feet. Depth of completed well 147 feet
NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of material encountered in each depth interval. Under REMARKS make any desirable notes as to character of water and the color, odor, taste, etc., of material encountered in each depth interval. Use additional sheet if needed.

(4) NATURE OF USE (check)
Domestic Industrial Municipal Stockwater
Irrigation Mining Other Test Well

Depth	R	MATERIAL										REMARKS	
		Clay	Sh	Sand	Gravel	Shale	Siltstone	Sandstone	Chert	Flint	Other		
0	35	X	X	X									TAN
25	60	X	X	X									"
60	78	X	X	X									"
78	119	X		X									WATER
119	122	X											TAN
122	138	X		X									TAN
138	147			X									WATER

(5) TYPE OF CONSTRUCTION (check)
Rotary Aug Jetted
Cable Drive Bored

(6) CASING SCHEDULE Threaded Welded
6" Diam. from 0 feet to 147 feet Gauge 2.80
" Diam. from _____ feet to _____ feet Gauge _____
" Diam. from _____ feet to _____ feet Gauge _____
New Relet Used

(7) PERFORATIONS Reformed? Yes No
Type of perforator used _____
Size of perforations _____ inch by _____ inches
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet
perforations from _____ feet to _____ feet

(8) SCREENS Well screen installed? Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____
Diam. _____ Slot size _____ Set from _____ ft. to _____

(9) CONSTRUCTION
Was well gravel packed? Too No Size at grate: _____
Gravel placed from _____ feet to _____ feet
Was a surface seal provided? Yes No
To what depth 137 feet
Material used in seal puddled clay
Did any strata contain undesirable water? Yes No
Type of water _____ Depth of strata _____
Method of seal set strata off: _____

Work started April 11 1988 Completed April 16 1988

Was auger casing used? Yes No
Was it cemented in place? Yes No

(14) PUMP
Manufacturer's Name _____
Type _____ H. P. _____
Depth to pump or bowls _____ feet

10) WATER LEVELS
Static level 7.5 feet below land surface Date 4-16-88
Residual pressure _____ feet above land surface Date _____

Well Driller's Statement
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief
Name HAROLD FENN Well Drilling
(Person, firm, or corporation) (Type or print)
Address RFD Box 448 Lehi, Utah
(Signed) Russell Montanman
(Well Driller)
License No. 452 Date 4-22- 1988

(11) FLOWING WELL.
Controlled by (check) Valve
Cap Plug No Control
Does well leak around casing? Yes No

RECEIVED
APR 16 1988
STATE ENGINEER
UTAH

LAPSED

REPORT OF WELL DRILLER STATE OF UTAH

Examined 9-23-70 VFO
Name RALPH W DAVIS
Address LEHI UTAH

Application No. 70740 (54-110)
Claim No.
Coordinate No. C-6-2) 3 C.C.C.

GENERAL STATEMENT Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah (This report shall be filed with the State Engineer within 80 days after the completion or abandonment of the well Failure to file such reports constitutes a misdemeanor)

(1) WELL OWNER
Name RALPH W DAVIS
Address LEHI UTAH

(2) LOCATION OF WELL
County UTAH
North 300 East 300
Depth 3 2 6 2 8 2

(3) NATURE OF WORK (check)
New Well [X]
Replacement Well [] Deepening [] Repair [] Abandon []

(4) NATURE OF USE (check)
Domestic [] Industrial [] Municipal [] Stockwater []
Irrigation [] Mining [] Other [] Trout Wall []

(5) TYPE OF CONSTRUCTION (check)
Rotary [] Dug [] Jetted []
Cable [] Driven [] Bored []

(6) CASING SCHEDULE
8" Dia from 2 feet to 291 feet Casing 280
2 1/2" Dia from 291 feet to 300 feet Casing 291

(7) PERFORATIONS
Type of perforator used MILLS KNIFE
18" perforations from 195 feet to 226 feet
106" perforations from 243 feet to 270 feet

(8) SCREENS
Well screens installed? Yes [] No []
Manufacturer's Name
Type
Diam Slot diam Set from ft to

(9) CONSTRUCTION
Cell gravel packed? Yes [] No []
Gravel placed from feet to feet
Was a surface seal provided? Yes [] No []
Material used in seal
Did any strata contain unusable water? Yes [] No []

(10) WATER LEVELS
Level 164 feet below lead surface Date 9/10/70
Pressure feet above lead surface Date

LOG RECEIVED
9-23-70
VFO

(11) FLOWING WELL
Controlled by (check) Valve []
Cap [] Plug [] No Control []
Does well leak around casing? Yes [] No []

(12) WELL TESTS
Drawdown in the distance in feet the water level is lowered below static level.
Was a pump test made? Yes [] No []
Yield gal/min with test drawdown after hours

(13) WELL LOG
Diameter of well 8 inches
Depth failed 300 feet Depth of completed well 291 feet

NOTE Place an X in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make as desirable notes as to occurrence of water and the color also nature etc of material encountered in each depth interval. Use additional sheets if needed.

Table with columns: DEPTH, MATERIAL (Clay, Silt, Sand, Gravel, Cobble, Boulders, Hardpan, Concretions, Bedrock, Other), REMARKS. Contains handwritten entries for soil types and depths.

Work started AUG 13 1970 Completed SEPT 10 1970

(14) PUMP
Manufacturer's Name
Type
Depth to pump or bowline feet

Well Driller's Statement
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief
Name EDWIN COMER
Address LEHI UTAH
(Signed) Edwin Comer
License No. 5 Date SEPT 22 1970

January 14, 2004

Division of Solid & Hazardous Waste
Attn Mr Carl Wadsworth
P O Box 144880
Salt Lake City, Utah 84114-4880

RE Run-on Control for the proposed Class VI Landfill in Utah County, Utah

Dear Mr Wadsworth,

On Friday, ~~July 9~~^{January} 9, 2004 Mr Clay Peck of Peck Rock Products, Inc requested that I provide an evaluation indicating whether or not the run-on control proposed on maps 3 and 4 is adequate to divert the 25-year storm flows away from his proposed Class VI Landfill in Utah County, Utah

As part of this evaluation, I have re-visited each of the proposed landfill sites I have also calculated the anticipated 25-year storm run-on to each of the proposed sites The results of my evaluation of each of these proposed landfill sites are shown below

Proposed Landfill Site A (Northern Site)

- a) The original Site Map 3 of 7 submitted as part of the permit application indicated the need for a "proposed drainage ditch" along the southwestern portion of the landfill After re-visiting the site, it was noted that an existing 3-foot to 6-foot high berm currently protects the landfill from overland storm flows from the south See sheets 3, 5, and 7 of 7 for updates concerning the existing drainage berm
- b) Drainage calculations indicate that the anticipated 25-year storm flows along this berm will not exceed 0.1 cubic feet per second (cfs), and that the berm will easily direct these flows away from the proposed landfill Site A
- c) Drainage calculations and photographs of this berm are shown within the attached Appendix A

Proposed Landfill Site B (Southern Site)

- a) The original Site Map 4 of 7 submitted as part of the permit application indicated the need for a "proposed drainage ditch" along the south and west sides of the landfill After re-visiting the site it was noted that, in many locations, a berm currently protects the landfill from overland storm flows from the west This berm varies in height from about 30-inches high in some areas, to over 6-feet high in others Some locations were not protected by a berm, so this drainage berm will need to be constructed as part of the landfill project See sheets 4, 6, and 7 of 7 for updates concerning these existing and proposed drainage berms

768 E Utah Valley Drive
American Fork UT 84003
Telephone 801 756 8888
Facsimile 801 756 8881
www.civilscience.com

- b) Drainage calculations for the west side of this site were split into two areas because some areas of the storm drainage will drain northerly, while others will drain southerly. Northerly draining flows are not expected to exceed 1.2 cfs, whereas southerly flows are expected to approach about 3.3 cfs. Drainage calculations indicate that the existing and proposed berms will be adequate to direct 25-year flows away from the proposed landfill site B.
- c) Drainage calculations and photographs of the existing berms within this area are shown within the attached Appendix B.

In Conclusion, the existing and proposed berms along the south side of landfill site A and along the south and west sides of landfill site B will be adequate to divert the 25-year storm flows away from each of the proposed Class VI Landfill sites.

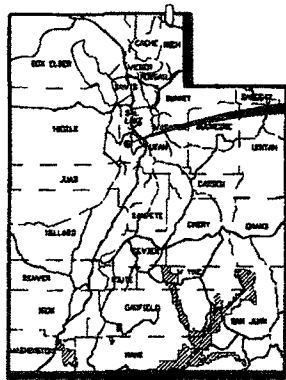
Please feel free to call me if you have any questions concerning this information (360-6763).

Sincerely,



Brad A. Kenison, P.E.

PECK ROCK CLASS VI LANDFILL PERMIT DRAWINGS



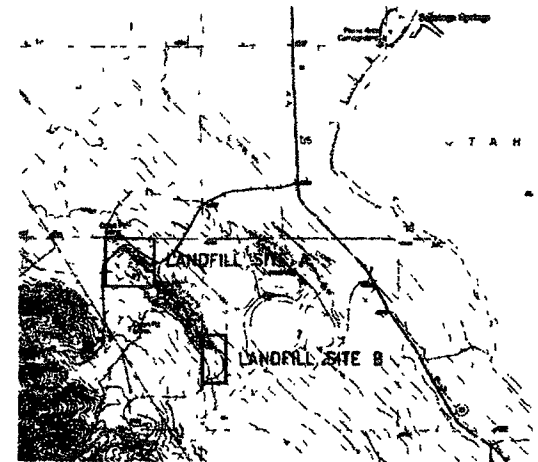
LOCATION MAP

PROJECT LOCATION

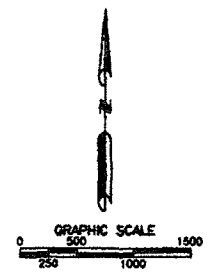
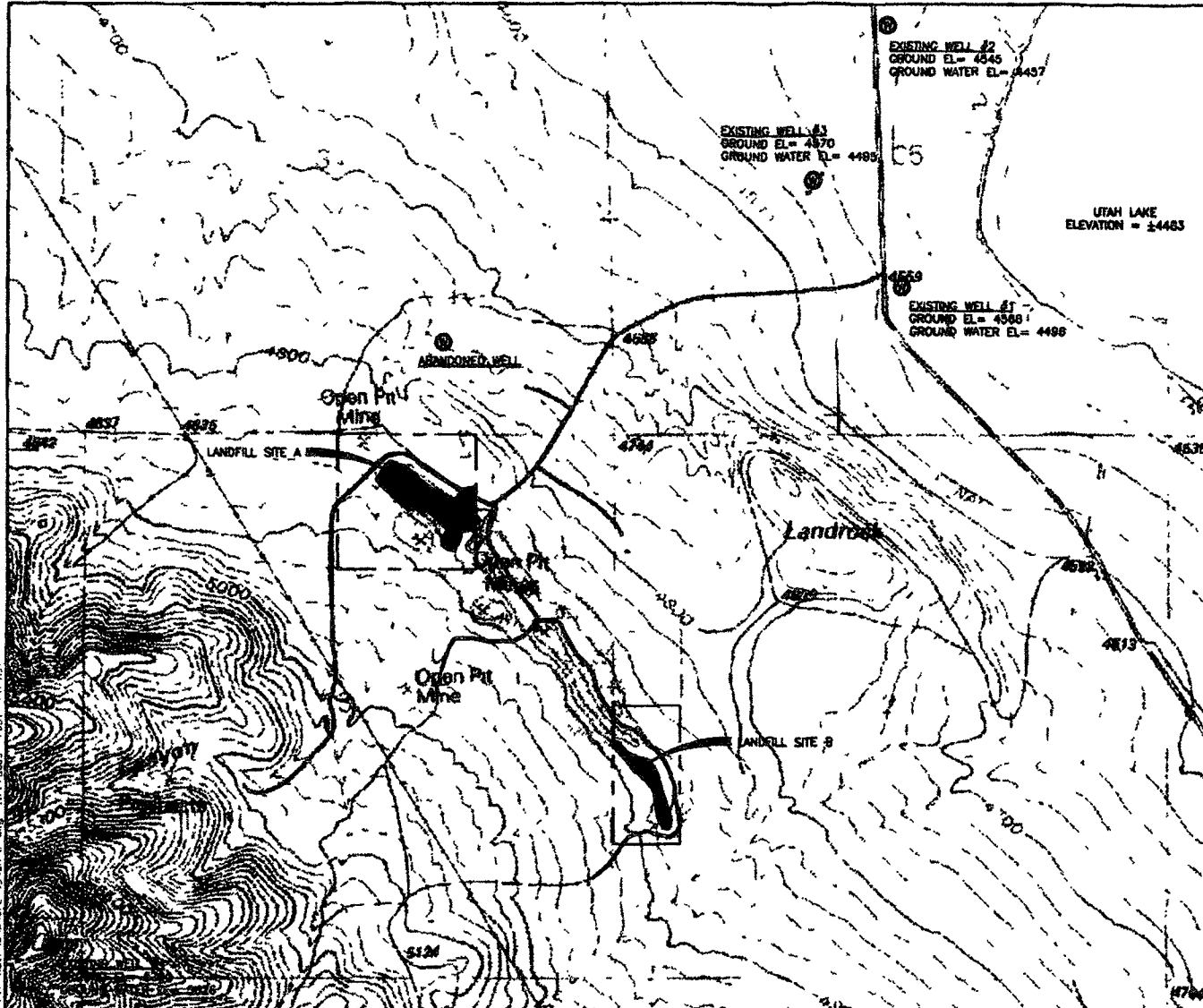
SHEET INDEX

- 1 COVER SHEET
- 2 SITE VICINITY MAP WITH WELL LOCATIONS
- 5 SITE MAP - LANDFILL SITE A
- 4 SITE MAP - LANDFILL SITE B
- 5 CROSS SECTIONS - LANDFILL SITE A
- 6 CROSS SECTIONS - LANDFILL SITE B
- 7 MISCELLANEOUS DETAILS

JANUARY 2004



CIVIL
SCIENCE
ENGINEERS - SURVEYORS - PLANNERS - SCIENTISTS
768 East Utah Valley Drive
American Fork UT 84003
(801) 756-8888



PROJECT DESCRIPTION

LANDFILL SITE A

ENCOMPASSING THE NORTHWEST 1/4 OF THE NORTH EAST 1/4 OF SECTION 3 TOWNSHIP 6 SOUTH, RANGE 1 WEST SALT LAKE BASE & MERIDIAN

LANDFILL SITE B

ENCOMPASSING THE WEST 1/2 OF THE WEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 2 TOWNSHIP 6 SOUTH RANGE 1 WEST SALT LAKE BASE & MERIDIAN

D:\2003\03_35_Peck_Rock_Landfill\03_35_Peck_Rock_Landfill.dwg 11/17/2003 4:03:24 PM MST

NO.	REVISIONS	BY	DATE

DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

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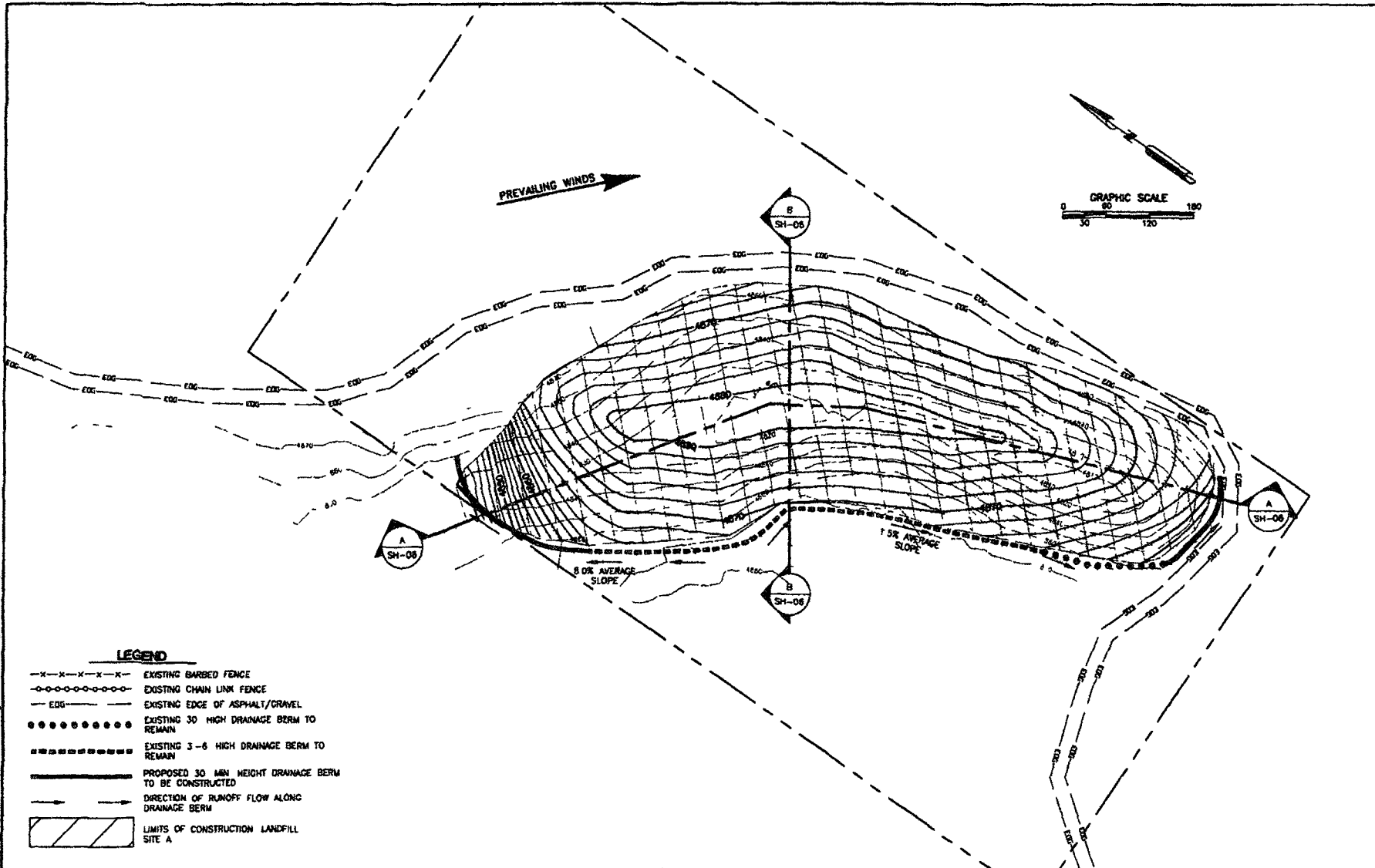
PECK ROCK CLASS VI LANDFILL

SITE VICINITY MAP WITH WELL LOCATIONS

PROJECT NO. 03135 00

SHEET NO. 2 OF 7

FILE NAME: 03135_00_02.dwg



LEGEND

- x-x-x-x-x- EXISTING BARBED FENCE
- o-o-o-o-o-o-o-o- EXISTING CHAIN LINK FENCE
- E-E-E- EXISTING EDGE OF ASPHALT/GRAVEL
- EXISTING 30' HIGH DRAINAGE BERM TO REMAIN
- EXISTING 3-6' HIGH DRAINAGE BERM TO REMAIN
- PROPOSED 30' MIN HEIGHT DRAINAGE BERM TO BE CONSTRUCTED
- DIRECTION OF RUNOFF FLOW ALONG DRAINAGE BERM
- [Hatched Box] LIMITS OF CONSTRUCTION LANDFILL SITE A

0.1003.03135 PECK ROCK CLASS VI LANDFILL SHEET 1/14/2004 B.E.S. 44 MS

NO.	REVISIONS	BY	DATE

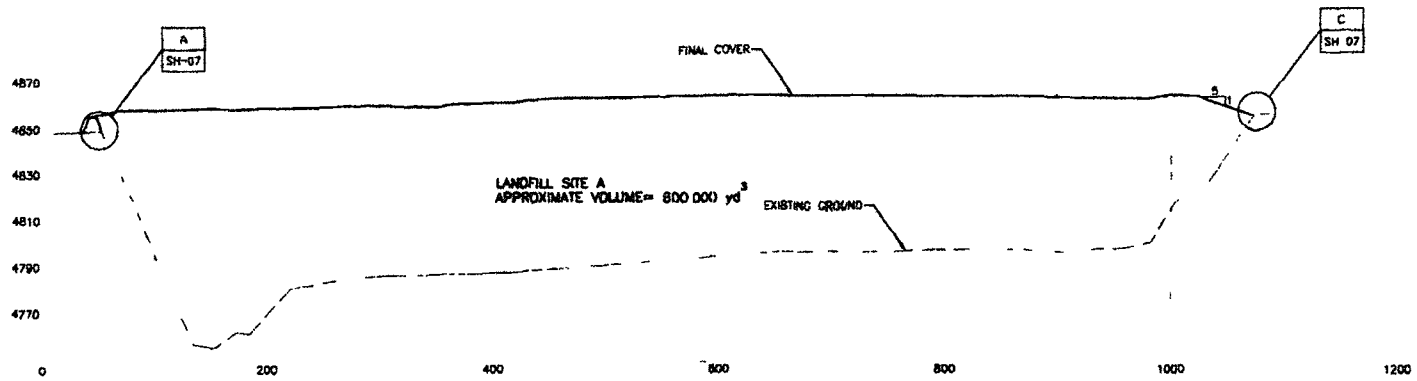
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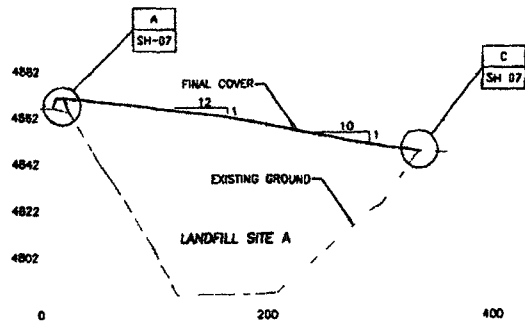
CIVIL SCIENCE
 788 East Utah Valley Drive
 American Fork, UT 84003
 PHONE: 468-7222 FAX: 468-7222

PECK ROCK CLASS VI LANDFILL
SITE MAP - LANDFILL SITE B

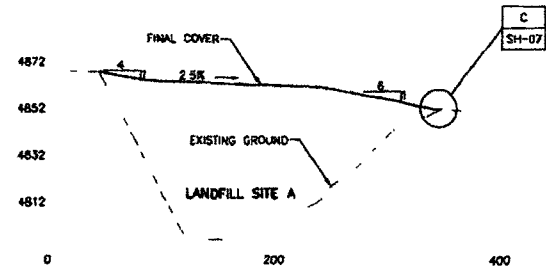
PROJECT NO.	03135 00
SHEET NO.	4 OF 7
DATE	1/14/2004



A SECTION
SH-07
NTS



B SECTION
SH-07
NTS



C SECTION
SH-07
NTS

2:40:00 03/05 P. CK REEK/CAD/AS/SHETS SH 05.dwg 1/4/2004 8:31:43 AM NPT

NO.	REVISIONS	BY	DATE

DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT MANAGER	DATE

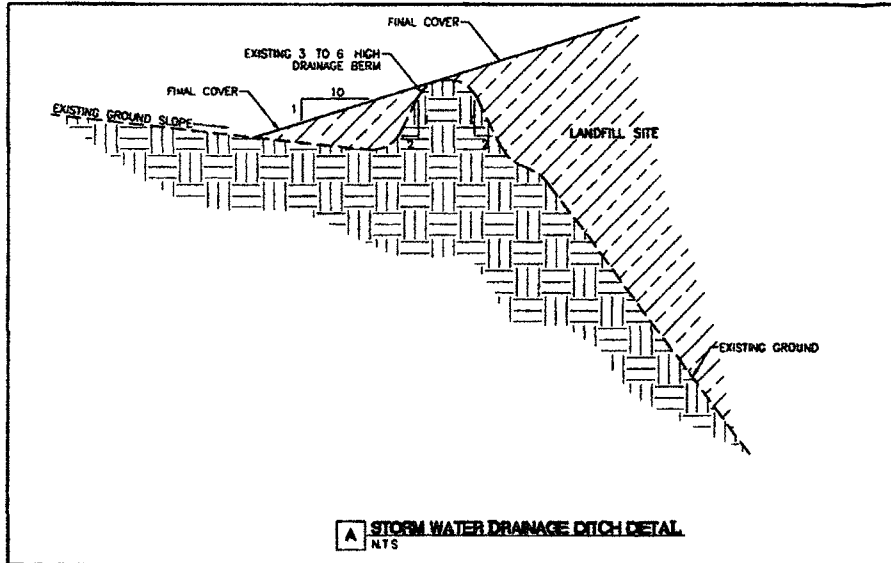
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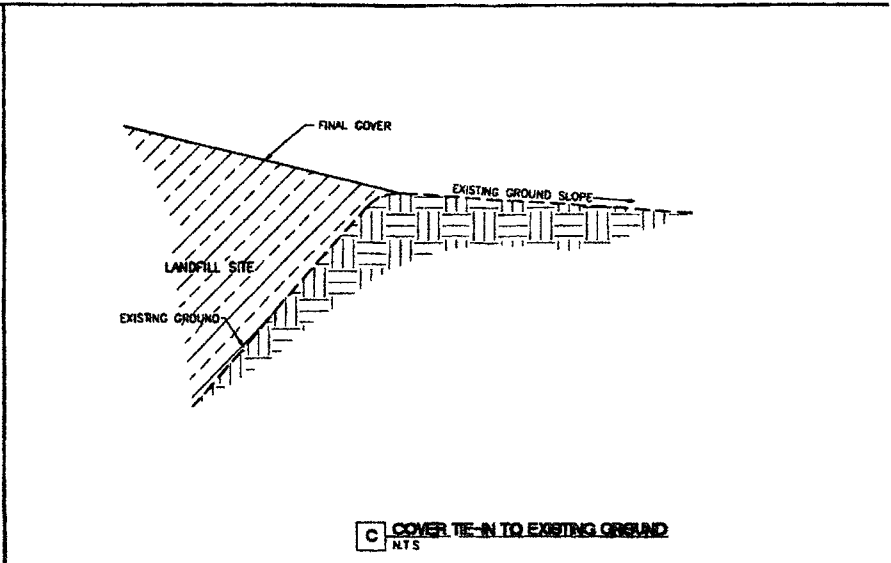
PECK ROCK CLASS VI LANDFILL

CROSS SECTIONS - LANDFILL SITE A

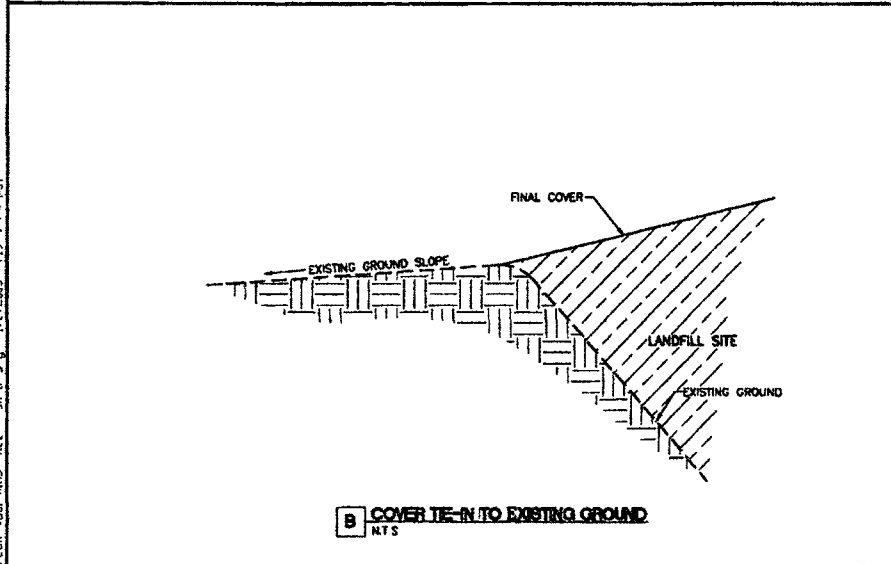
PROJECT NO. 03135 00
SHEET NO. 5 OF 7
FILE NAME: 03135 00.dwg



A STORM WATER DRAINAGE DITCH DETAIL
NTS



C COVER TIE-IN TO EXISTING GROUND
NTS



B COVER TIE-IN TO EXISTING GROUND
NTS

C:\03135\PECK_BOCK\CLASS VI LANDFILL\DWG\03135-007.dwg 1/11/2003 4:19:7 PM MST

NO.	REVISIONS	BY	DATE

DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

PROJECT ENGINEER
PROJECT MANAGER

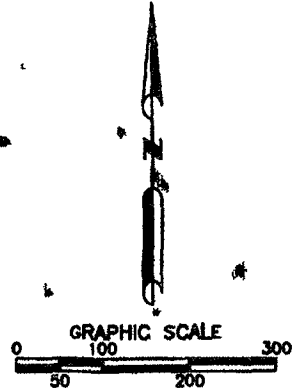
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PROJECT NO	03135 00
SHEET NO	7 OF 7
PECK BOCK CLASS VI LANDFILL	
MISCELLANEOUS DETAILS	

APPENDIX A

LINE



EXISTING 24" DRAINAGE
GULVERT BENBATH
ROAD TO REMAIN

LANDFILL SITE A

EXISTING DRAINAGE CHANNEL

900

AREA= 15 ACRES

EXISTING DIRT MOUND

0.15
Mi

LEGEND



EXISTING 3-6 HIGH DRAINAGE BERM TO
REMAIN

PROPOSED LANDFILL SITE A - NORTHERN PIT

* CALCULATE ANTICIPATED 25-YEAR STORM FLOWS

GIVEN: DRAINAGE AREA = 1.5 ACRES
AVERAGE EXIST. GROUND SLOPE = 5.6 %
AVERAGE "C" FACTOR = 0.2

FLOW CALCULATION $Q = CIA$

TO OBTAIN I, calculate T_c

T_c (Using figure 3-2), CALCULATE VELOCITY
Given ground slope = $\pm 5.6\%$
GROUND COVER TYPE = Between short grass/
pasture & NEARLY BARE GROUND

FLOW VELOCITY = ± 2 FT/SEC

$$T_c = \left(\frac{900 \text{ ft}}{2 \text{ ft/sec}} \right) \left(\frac{1 \text{ min}}{60 \text{ sec}} \right) = 7.5 \text{ minutes}$$

Use Higher Intensity of 10 min. Storm

Intensity (FROM UTAH LAKE LEHI TABLE)

$$I_{10} = 0.31 \text{ inches/Hour}$$

$$Q = CIA = (0.2)(0.31)(1.5) = 0.093 \text{ cfs}$$

USE MIN. FLOW = 0.1 cfs

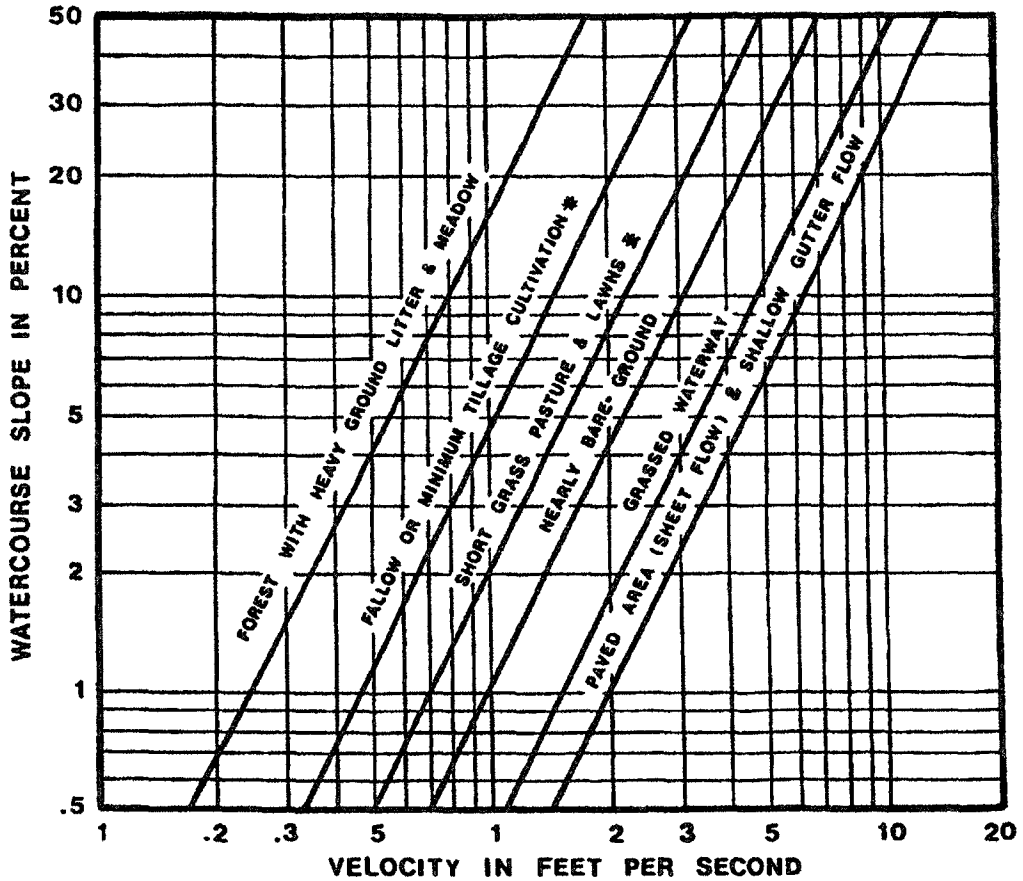


FIGURE 3-2. ESTIMATE OF AVERAGE FLOW VELOCITY FOR USE WITH THE RATIONAL FORMULA

* MOST FREQUENTLY OCCURRING "UNDEVELOPED" LAND SURFACES IN THE DENVER REGION

REFERENCE "Urban Hydrology For Small Watersheds" Technical Release No 55 USDA, SCS Jan 1975



UTAH STATE UNIVERSITY
Logan, Utah

**ESTIMATED RETURN PERIODS FOR
SHORT-DURATION PRECIPITATION IN UTAH**

Station Utah Lake Lehi Elevation 4497
Latitude. 40° 22' Longitude 111° 54'

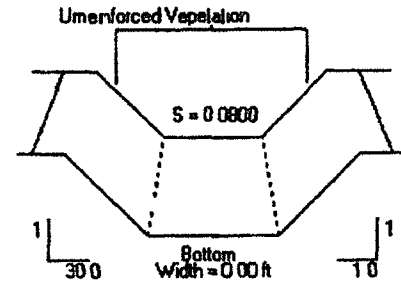
D U R A T I O N

RETURN PERIOD (years)	D U R A T I O N									
	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	.09	.14	.17	.24	.30	.35	.39	.51	.61	.72
2	.11	.18	.22	.31	.39	.46	.53	.69	.84	.99
5	.15	.24	.30	.42	.53	.63	.73	.97	1.19	1.41
10	.17	.27	.34	.47	.59	.72	.84	1.14	1.41	1.69
25	.20	.31	.39	.55	.69	.85	1.01	1.39	1.73	2.09
50	.23	.36	.45	.62	.79	.97	1.15	1.59	1.98	2.39
100	.26	.40	.51	.70	.89	1.10	1.30	1.79	2.23	2.69

North American Green Erosion Control Materials Design Software Ver 4.11 Channel 1/14/200 09:26 AM COMPUTED BY bak
 PROJECT NAME Peck Rock Land Site A PROJECT NO 03135 00
 FROM STATION/REACH TO STATION/REACH DRAINAGE AREA 1.5 Acres DESIGN FREQUENCY 25 Year

HYDRAULIC RESULTS

Discharge (cfs)	Peak Flow Period (hrs)	Velocity (fps)	Area (sq ft)	Hydraulic Radius (ft)	Normal Depth (ft)
01	12.0	0.17	0.57	0.09	0.19



BEND RESULTS

Bend Radius (ft)	Length Protection (ft)	Super Elevation Depth (ft)
1000.0	0.1	0.2

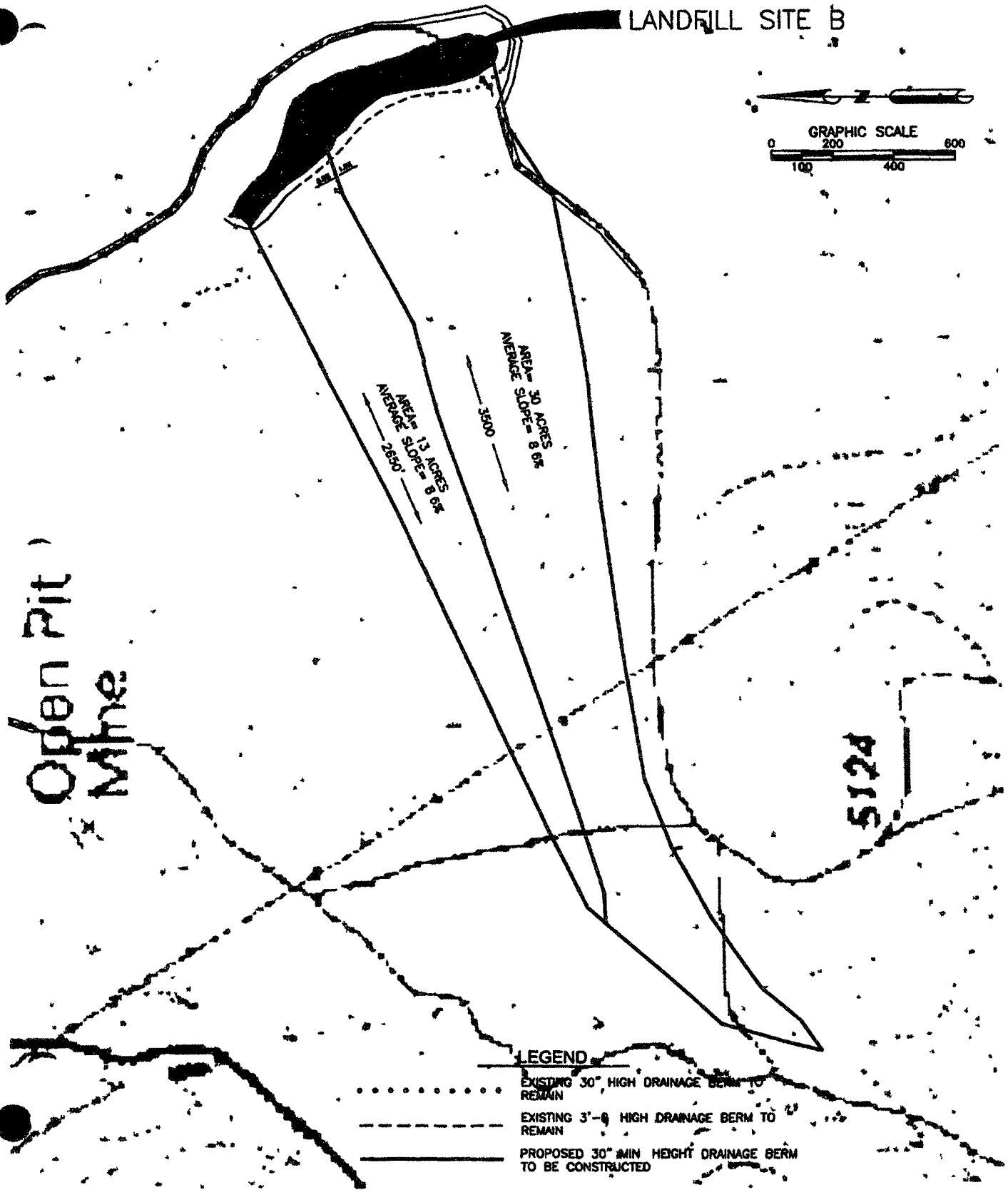
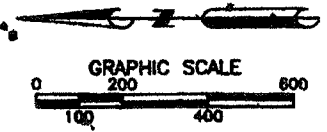
LINER RESULTS

Not to Scale

Reach	Material Type	Phase Class	Veg. Type	Soil Type	Manning's n	Permissible Shear Stress (psf)	Calculated Shear Stress (psf)	Safety Factor	Remarks
	Staple Pattern		Veg. Density						
Straight	Unreinforced	D	Mix	Clay Loam	0.500	3.33	0.96	3.47	STABLE
			<50%						
Bend	Unreinforced	0	Mix	Clay Loam	0.500	3.33	0.96	3.47	STABLE
			<50%						

APPENDIX B

LANDFILL SITE B



LEGEND

- EXISTING 30" HIGH DRAINAGE BERM TO REMAIN
- EXISTING 3'-6" HIGH DRAINAGE BERM TO REMAIN
- PROPOSED 30" MIN HEIGHT DRAINAGE BERM TO BE CONSTRUCTED

PROPOSED LANDFILL SITE B - SOUTHERN PIT
* NORTHERN DRAINAGE *

* CALCULATE ANTICIPATED 25-YEAR STORM FLOW

GIVEN: DRAINAGE AREA = 13 ACRES
AVERAGE EXISTING GROUND SLOPE = 8.6%
AVERAGE "C" FACTOR = 0.2

FLOW CALCULATION $Q = CIA$

TO OBTAIN I, CALCULATE T_c

T_c (Using Figure 3-2), CALCULATE VELOCITY
GIVEN GROUND SLOPE = 8.6%
GIVEN GROUND COVER = Between Short Grass
Pasture & Nearly Bare Ground

FLOW VELOCITY = 2.5 ft/sec

$$T_c = \left(\frac{2650'}{2.5 \frac{\text{ft}}{\text{sec}}} \right) \left(\frac{1 \text{ min.}}{60 \text{ sec}} \right) = 17.66 \text{ min}$$

USE HIGHER T_c VALUE OF 20 min.

I (INTENSITY) - from Utah Lake Leni TABLE

$$I_{20} = 0.44 \text{ in/hr}$$

$$\text{Flow} = Q = CIA = (0.20)(0.44)(13) = 1.14$$

USE MIN. FLOW OF 1.2 cfs

PROPOSED LANDFILL SITE B - SOUTHERN PIT
* SOUTHERN DRAINAGE *

* CALCULATE ANTICIPATED 25-YEAR STORM FLOWS

GIVEN: DRAINAGE AREA = 30 ACRES
AVERAGE EXIST GROUND SLOPE = 8.6 %
AVERAGE "C" FACTOR = 0.2

FLOW CALCULATION $Q = CIA$

TO OBTAIN I, CALCULATE T_c

T_c (USING FIGURE 3-2) CALCULATE VELOCITY
GIVEN GROUND SLOPE = 8.6 %
GIVEN GROUND COVER = BETWEEN SHORT GRASS/
PASTURE & NEARLY BARE GROUND.

FLOW VELOCITY = ± 2.5 ft/sec

$$T_c = \left(\frac{3500'}{2.5'/\text{SEC}} \right) \left(\frac{1 \text{ MIN}}{60 \text{ SEC}} \right) = 23.33 \text{ min}$$

USE HIGHER INTENSITY OF 30 min. STORM
INTENSITY (I) - FROM UTAH LAKE LEHI TABLE

$$I_{30} = 0.55 \text{ in/hr}$$

$$\text{FLOW} = Q = CIA = (0.20)(0.55)(30) = 3.3 \text{ cfs}$$

USE MIN. FLOW OF 3.30 cfs

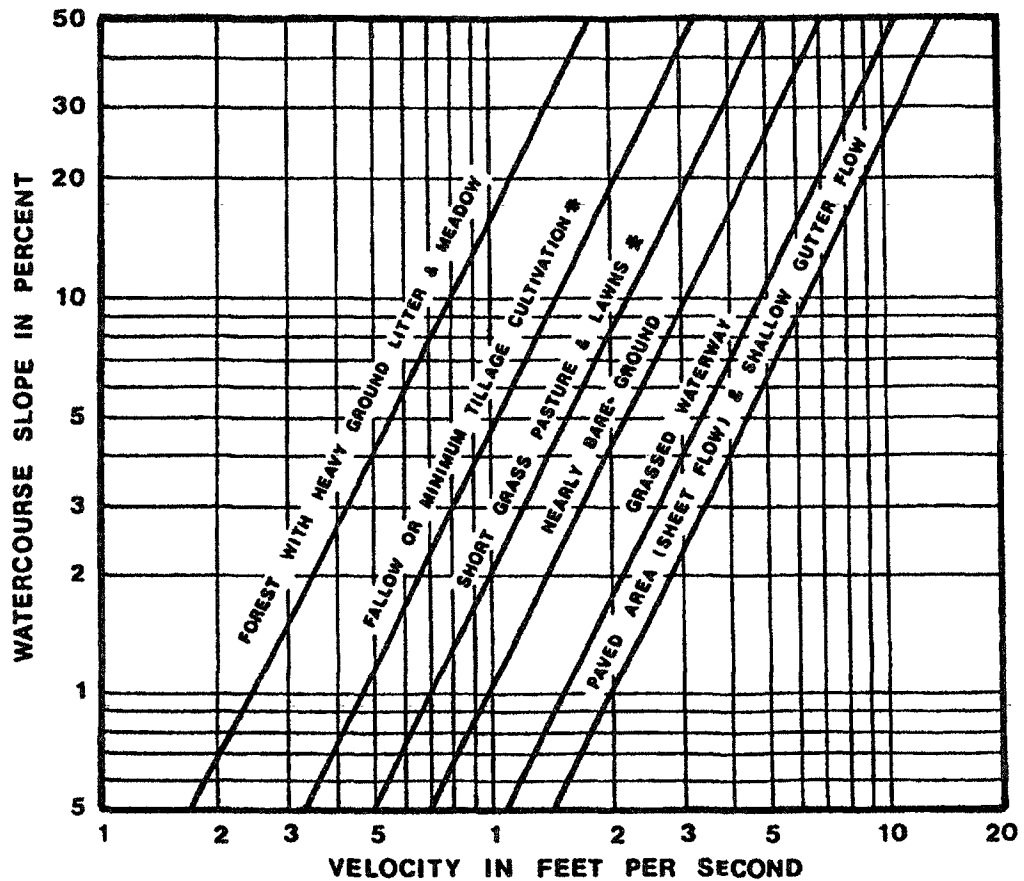


FIGURE 3-2. ESTIMATE OF AVERAGE FLOW VELOCITY FOR USE WITH THE RATIONAL FORMULA

* MOST FREQUENTLY OCCURRING "UNDEVELOPED" LAND SURFACES IN THE DENVER REGION

REFERENCE "Urban Hydrology For Small Watersheds" Technical Release No 55 USDA, SCS Jan 1975

5-1-84

URBAN DRAINAGE & FLOOD CONTROL DISTRICT





UTAH STATE UNIVERSITY
Logan, Utah

**ESTIMATED RETURN PERIODS FOR
SHORT-DURATION PRECIPITATION IN UTAH**

Station: Utah Lake Lehi
Latitude: 40° 22'

Elevation: 4497
Longitude: 111° 54'

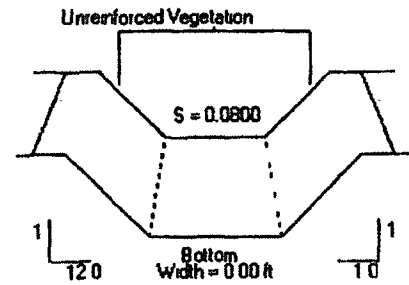
DURATION

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	.09	.14	.17	.24	.30	.35	.39	.51	.61	.72
2	.11	.18	.22	.31	.39	.46	.53	.69	.84	.99
5	.15	.24	.30	.42	.53	.63	.73	.97	1.19	1.41
10	.17	.27	.34	.47	.59	.72	.84	1.14	1.41	1.69
25	.20	.31	.39	.55	.69	.85	1.01	1.39	1.73	2.09
50	.23	.36	.45	.62	.79	.97	1.15	1.59	1.98	2.39
100	.26	.40	.51	.70	.89	1.10	1.30	1.79	2.23	2.69

PROJECT NAME Peck Rock Landfill Site B PROJECT NO 03135 00
 FROM STATION/REACH North TO STATION/REACH DRAINAGE AREA 13 Acres DESIGN FREQUENCY 25 Year

HYDRAULIC RESULTS

Discharge (cfs)	Peak Flow Period (hrs)	Velocity (fps)	Area (sq.ft)	Hydraulic Radius(ft)	Normal Depth (ft)
12	12.0	0.40	3.00	0.33	0.68



BEND RESULTS

Bend Radius (ft)	Length Protection (ft)	Super Elevation Depth (ft)
1000.0	0.3	0.7

Not to Scale

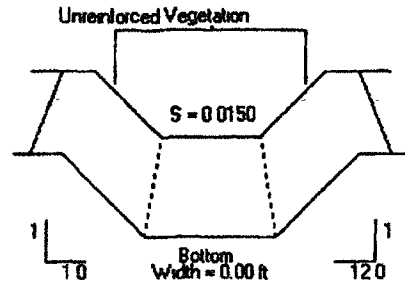
LINER RESULTS

Reach	Material Type	Phase	Veg. Type	Soil Type	Manning's n	Permissible Shear Stress (psf)	Calculated Shear Stress (psf)	Safety Factor	Remarks
	Staple Pattern	Class	Veg. Density						
Straight	Unreinforced		Mm	Clay Loam	0.500	3.33	3.39	0.98	UNSTABLE
		0	<50%						
Bend	Unreinforced		Mm	Clay Loam	0.500	3.33	3.39	0.98	UNSTABLE
		0	<50%						

North American Green Erosion Control Materials Design Software Ver 4.11 Channel 1/14/2001 10:00AM COMPUTED BY bak
 PROJECT NAME Peck Rock Landfill Site B PROJECT NO 03135 00
 FROM STATION/REACH South TO STATION/REACH DRAINAGE AREA 30 Acres DESIGN FREQUENCY 25 Year

HYDRAULIC RESULTS

Discharge (cfs)	Peak Flow Period (hrs)	Velocity (fps)	Area (sq.ft)	Hydraulic Radius (ft)	Normal Depth (ft)
3.3	12.0	0.27	12.00	0.66	1.36



BEND RESULTS

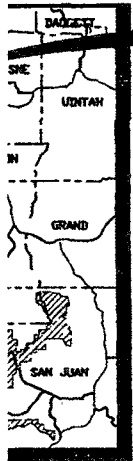
Bend Radius (ft)	Length Protection (ft)	Super Elevation Depth (ft)
1000.0	0.7	1.4

Not to Scale

UNER RESULTS

Reach	Material Type	Phase	Veg Type	Soil Type	Mannings n	Permissible Shear Stress (psf)	Calculated Shear Stress (psf)	Safety Factor	Remarks
	Staple Pattern	Class	Veg. Density						
Straight	Unreinforced		Mix		0.500	3.33	1.27	2.62	STABLE
		D	<50%	Clay Loam					
Bend	Unreinforced		Mix		0.500	3.33	1.27	2.62	STABLE
		D	<50%	Clay Loam					

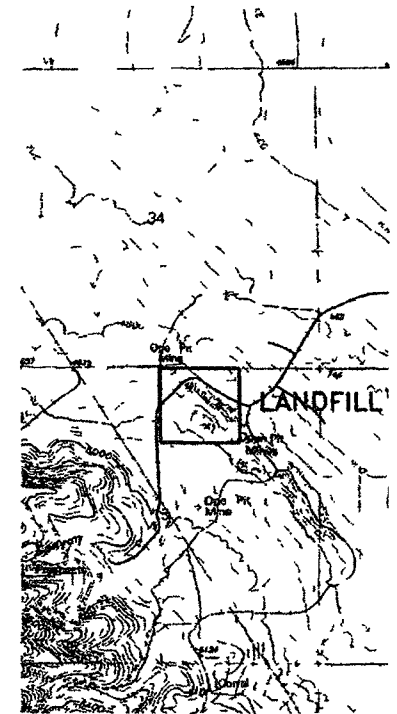
PECK ROCK CLASS VI LANDFILL
PERMIT DRAWINGS



PROJECT LOCATION

SHEET INDEX

- 1 COVER SHEET
- 2 SITE VICINITY MAP WITH WELL LOCATIONS
- 3 SITE MAP - LANDFILL SITE
- 4 CROSS SECTIONS - LANDFILL SITE
- 5 MISCELLANEOUS DETAILS



FEBRUARY 2009

EXISTING Well
GROUND EL= 4570
GROUND WATER EL= 4495

UTAH LAKE
ELEVATION = ±4483

4559
EXISTING WELL #1
GROUND EL= 4568
GROUND WATER EL= 4496

ABANDONED WELL

Open Pit Mine

Open Pit Mines

Open Pit Mine

Landrock

PROJECT DI
LANDFILL S
ENCOMPAS
EAST 1/4
RANGE 1

160 Acres

30 Acres

DISTRIBUTING

CANAL

34

35

36

2

4704

4743

4536

4692

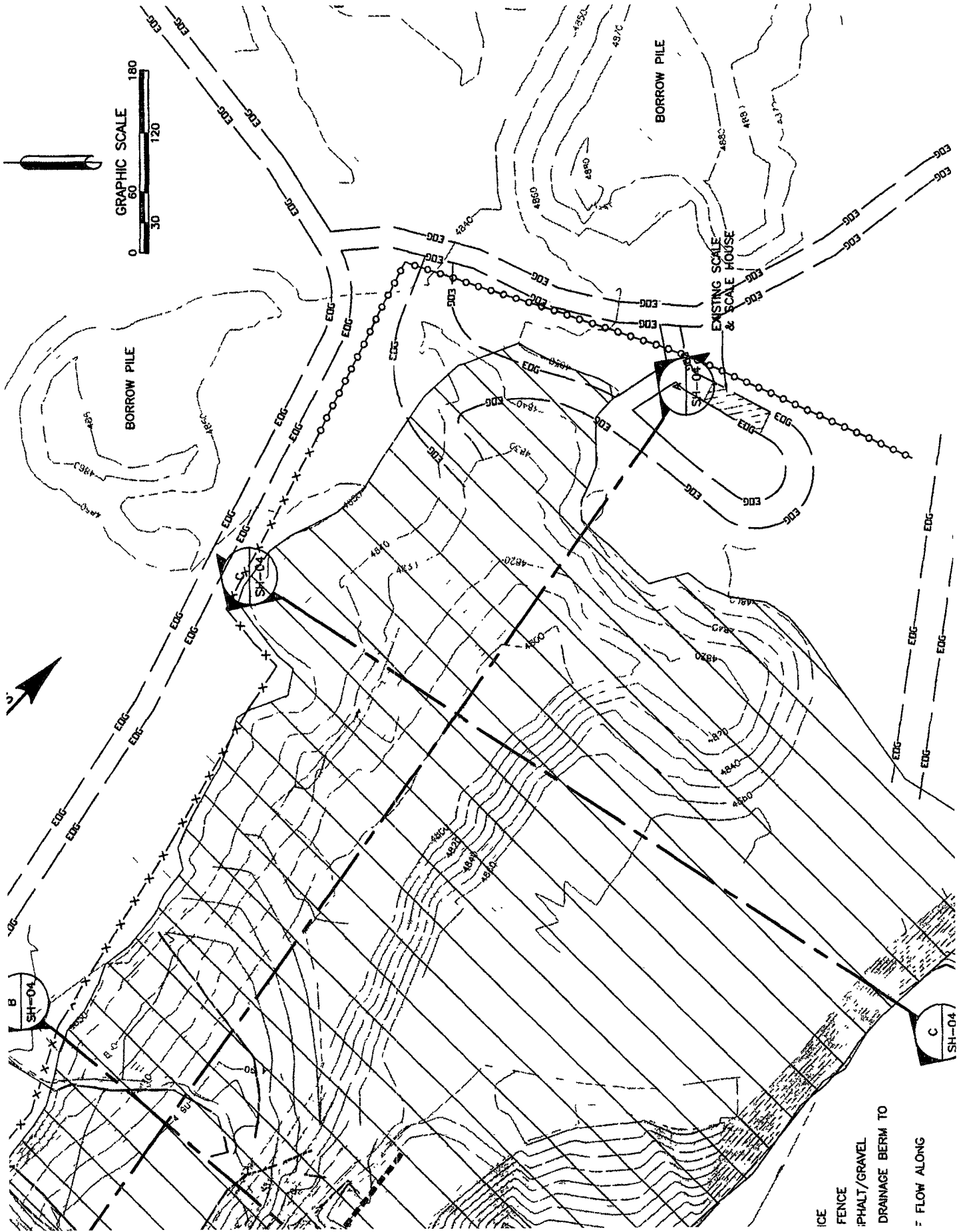
4613

4509

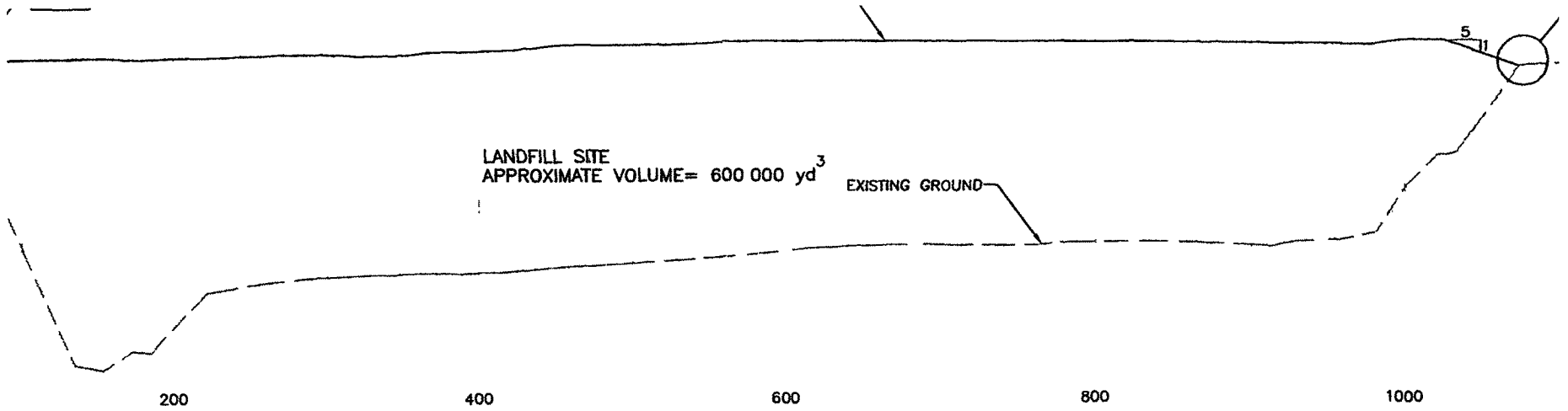
4800

4700

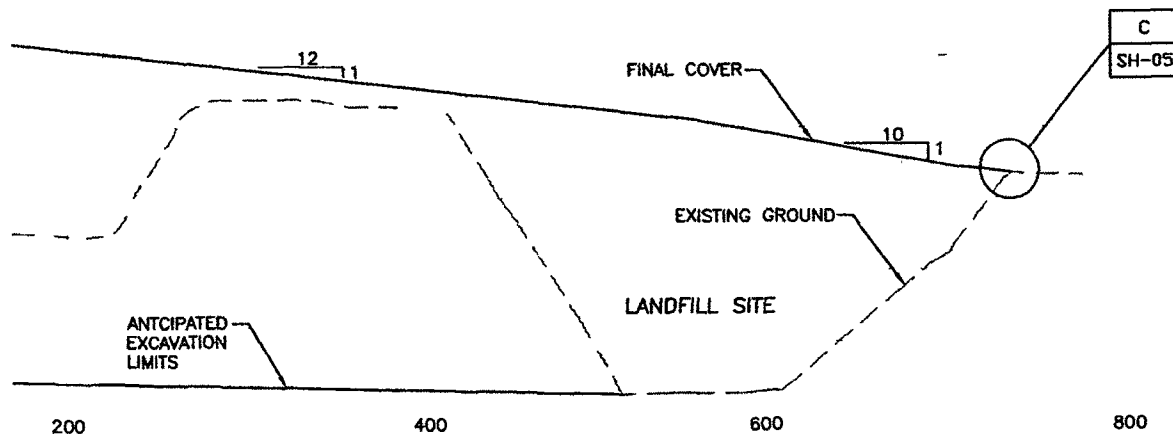
SITE



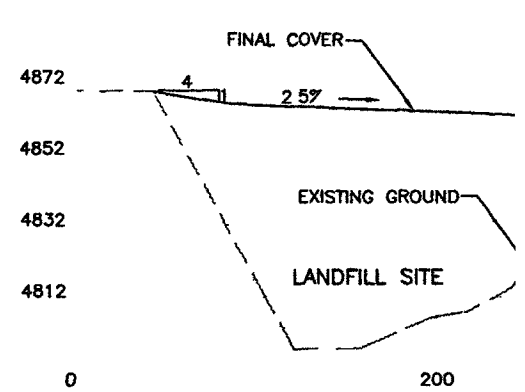
ICE
 FENCE
 PHALT/GRAVEL
 DRAINAGE BERM TO
 F FLOW ALONG



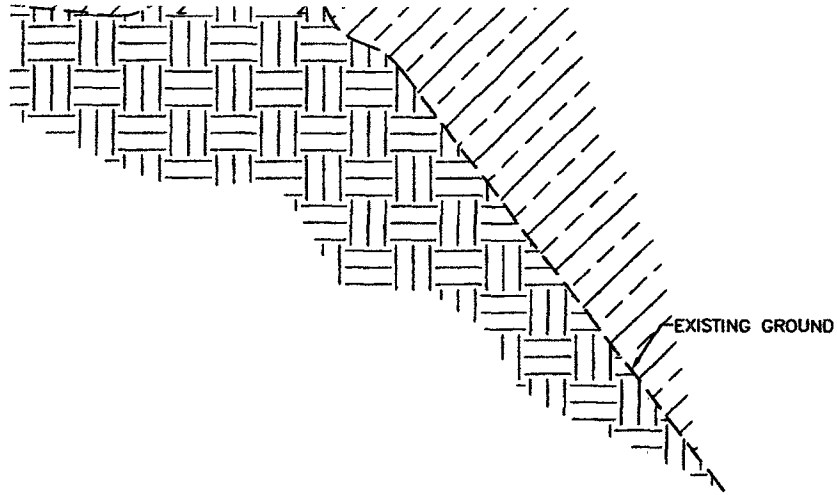
A SECTION
SH-03 NTS



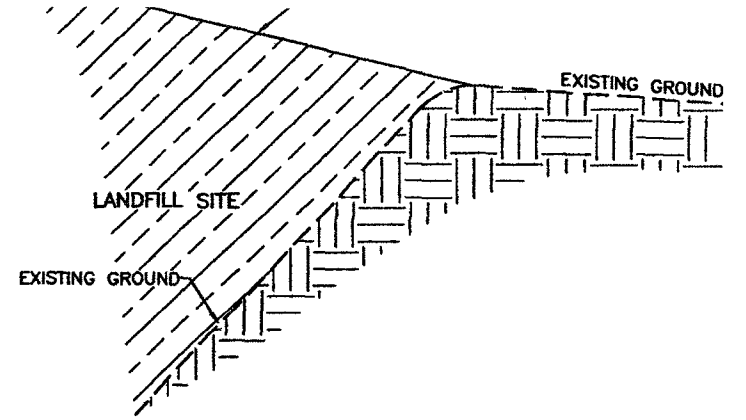
C SECTION
SH-03 NTS



B SECTION
SH-03 NTS



A STORM WATER DRAINAGE DITCH DETAIL
NTS



C COVER TIE-IN TO EXI
NTS

