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UTAH DIVISION OF
SOLID & HAZARDOUS WASTE

**Peck Rock & Products**
**268 East 360 South**
**Lehi, Utah 84043**
**801-768-4139**

PERMIT APPLICATION

# PECK ROCK & PRODUCTS CLASS VI LANDFILL & RECYCLING FACILITY

INITIAL APPLICATION

Utah C[illegible]s IV and VI Landfill Permit Applica[illegible] For **HAND DELIVERED**

03.03525

Utah Division of Solid and Hazardous Waste

**Part I General Information** APPLICANT: PLEASE COMPLETE ALL SECTIONS.

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

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

**III. Facility Name and Location**

Legal Name of Facility: Peck Rock & Products Class VI Landfill

Site Address (street or directions to site): West Lehi & Saratoga Springs Township 6S Range 1West | County: Utah

City: Lehi | State: Ut. | Zip Code: 84043 | Telephone: 801-768-8111, 801-368-3

Township: 6S | Range: 1W. | Section(s): 2 & 3 | Quarter/Quarter Section: NW 1/4 of the NE 1/4 | Quarter Section:

Main Gate Latitude: 40 degrees 19' minutes 30" seconds | Longitude: 111 degrees 56' minutes 00" seconds West Longitude

**IV. Facility Owner(s) Information**

Legal Name of Facility Owner: Clay Peck, Cole Peck

Address (mailing): 268 E. 360 S.

City: Lehi | State: Ut. | Zip Code: 84043 | Telephone: 801-768-4139, 368-39

**V. Facility Operator(s) Information**

Legal Name of Facility Operator: Peck Rock & Products LLC

Address (mailing): 1512 N. 1300 E.

City: Lehi | State: Ut. | Zip Code: 84043 | Telephone: 801-768-8111

**Property Owner(s) Information**

Legal Name of Property Owner: Peck Rock & Products & Utah State Trustlands

Address (mailing): 268 E. 360 S. 675 E. 500 South Suite 500 Salt Lake

City: Lehi, Utah | State: | Zip Code: 84102 | Telephone:

**VII. Contact Information** Clay Peck

Owner Contact: Clay Peck, Cole Peck | Title: Owners

Address (mailing): 268 E. 360 S.

City: Lehi | State: Ut. | Zip Code: 84043 | Telephone: 801-768-4139

Email Address: | Alternative Telephone (cell or other): 368-3937 - 801-367-3939

Operator Contact: Peck Rock & Products LLC | Title:

Address (mailing): 1512 N. 1300 E. Cole Peck

City: Lehi | State: Ut. | Zip Code: 84043 | Telephone: 801-768-8111

Email Address: Clay Peck | Alternative Telephone (cell or other): 367-3939

Property Owner Contact: Clay Peck, Cole Peck | Title: Owners

Address (mailing): 268 E 360 S.

City: Lehi | State: Ut | Zip Code: 84043 | Telephone: 801-368-3937

Email Address: | Alternative Telephone (cell or other):

(rev. 5/2003)

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# APPLICATION FOR A PERMIT TO OPERATE A CLASS VI LANDFILL

## PART II - GENERAL REPORT

### 1.0 INTRODUCTION

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

Clay Peck and Cole Peck , with regard to State permitting and management rules R315-301 through 320, plan to operate 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 have a Class IV b Construction and Demolition landfill. We are applying for a Commercial Class VI Construction and Demolition Landfill Permit. 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.

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 twenty 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.***

1.2A LEGAL DESCRIPTION OF THE FACILITY (R315-310-3(1)(C))

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

1.2B PROOF OF OWNERSHIP

***See attached Lease Agreements***

1.2C MAP COORDINATES

40 / 19'/ 30" North Latitude , 111 / 56' / 00" West Longitude

1.2D LAND USE AND ZONING

The land is currently in a mining district. The zoning is Mining and Grazing (MG-1)

## 1.3 TYPES OF WASTE AND AREA SERVED BY THE FACILITY(R315-310-3(1)(D))

The types of waste to be handled at this Class VI Landfill are defined in R315-301-2(17) This may include but not limited to: Construction waste, dirt, asphalt, fencing, concrete, building demolition, metal, yard waste, inert waste, bricks, and tree stumps.

Area served by this landfill includes Utah County and South Salt Lake County. This landfill is used to dispose of material from within a 30 mile radius of the landfill site.

## 1.4 DEMONSTRATION THAT THE LANDFILL IS NOT A COMMERCIAL LANDFILL

The Landfill is a Commercial Class VI Construction and Demolition Landfill. The special requirements pertaining to a Commercial Landfill are addressed in other sections of the permit application.

# 2.0 PLAN OF OPERATION

## 2.1 INTENDED SCHEDULE OF CONSTRUCTION (R315-301-2(2)(a))

We currently operate a private class IV b construction and demolition landfill on the site. When we receive all the approvals necessary, we will immediately begin operation. There is no additional construction necessary. We will bring in an office trailer, but it will be mobile, therefore no construction will be necessary. The estimated time to deliver the trailer is one week from the time of order.

## 2.2 DESCRIPTION OF ON-SITE WASTE HANDLING PROCEDURES (R315-302-2(2)(b)) and (R315-310-3(l)(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 once a month, 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.

**PECK ROCK & PRODUCTS**
**268 EAST 360 SOUTH**
**LEHI, UTAH 84043**
**801-768-4139**

| Date | Time | Truck # | Job Name | Gross wt. | Light wt. | Net wt. | Driver Sign. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## 2.3 Schedule of inspections and monitoring (R315-302-2(2)(c)) 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 R315-305-5. A minimum of once a quarter, but more frequently when necessary.

**INSPECTION AND MONITORING SCHEDULE**

| Inspection/Monitoring Activity | Frequency |
|---|---|
| Access road and gate | Weekly |
| Fence 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.

## 2.4 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 fire was uncontrollable. Estimated response time is 15 minutes. See enclosed letter from the Lehi Fire Department.

## 2.5 CORRECTIVE ACTION PROGRAMS FOR GROUND WATER CONTAMINATION. (R315-302-2(2)(e))

N/A - No contaminating materials will be accepted. Furthermore ground water is hundreds of feet down. We have mined clay as far as 100' down from the surface and have never hit water. ** See attached well drilling reports , with water depth information.**

## 2.6 CONTINGENCY PLANS FOR OTHER RELEASES (R315-302-2(2)(f))

Potential for a release of explosive gases or hazardous material is minimal. This type of

material is not permitted within this facility.
The facility will slope towards the center of the landfill cell to prevent runoff. A dirt berm will surround the landfill to prevent run-on and run-off.

## 2.7 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.

## 2.7A PLAN TO CONTROL WINDBLOWN LITTER

A daily 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 regularly to prevent it from being blown by the wind.

## 2.8 DESCRIPTION OF MAINTENANCE OF INSTALLED EQUIPMENT (R315-302-2(2)(h))

This facility does not contain any installed equipment.

## 2.9 PROCEDURES FOR EXCLUDING THE RECEIPT OF HAZARDOUS OR PCB CONTAINING WASTE (R315-302-2(2)(i))

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 inspections 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 | Company | Truck # | Material | Comments /Signature |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

2.10 PROCEDURES FOR CONTROLLING DISEASE VECTORS (R315-302-2(2)(j))
The facility will be kept clean and free of scattered debris. Waste put into the landfill will be covered regularly. 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.

2.11 PLAN FOR ALTERNATIVE WASTE HANDLING (R315-302-2(2)(k))
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 it was needed the landfill would be temporarily closed until the problem was remedied.

2.12 GENERAL TRAINING AND SAFETY PLAN FOR SITE OPERATIONS (R315-302-2(2)(n))
All personnel will be trained in CPR and First Aid by a Red Cross certified instructor. This certification is good for 2 years. We also will require the training that is offered by the Utah Chapter of the Solid Waste of North America , 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.

2.13 MEETING REQUIREMENTS OF RULE R315-305 (315-310-5(2)(e))
This class VI landfill will operate and follow the rules stated in the Solid Waste Permitting and Management Rules. (R315-301 through 320)

2.13A Location Standards- This location is not within a flood plain area.

2.13B Wetlands- 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 to the east.

2.13C Run on and Run Off- See 4.2

2.13D Collect and Treat Run Off -See 4.2

2.13E Facility Entrance- There will be a sign erected at the entrance as specified in section R315-303-2(7)(d)

2.13F Records that will be kept R315-302-2(3)-All records that need to be kept in order to comply with the above mentioned rule will be held at the office of Peck Rock & Products.

2.13G Change in record of title-See 6.2

2.13H Excluding prohibited waste-To prevent the disposal of unauthorized waste there will be at least one person on site during business hours and to prevent unauthorized disposal there will be locked gates after regular business hours. Also see section 2.9

2.13I We will minimize the size of the working face as required by subsection R315-303-3(7)(g) This will be done by covering the waste on a regular basis.

2.13 J Fugitive Dust - See 2.7

2.13K Minimize liquids admitted to the landfill according to subsection R315-303-3(1)(a) and (b) The operator is responsible for identification and prohibition of unacceptable wastes. All employees will be trained in methods and techniques for spotting liquid waste, drums, waste in sealed containers, red-bag infectious waste, and waste which may exhibit unusual odors or markings. Loads shall be inspected as they arrive and a description of the contents will be included in the Daily Operating Record ( concrete, trees, asphalt, tile ect.)

Any suspicious waste will be refused access to the landfill. Any waste discovered that is not permitted in a C&D landfill will be separated and hauled to an approved facility

2.13L Collect scattered litter as necessary to avoid a fire hazard or an aesthetic nuisance: (See 2.7A)

2.13 M Prohibit scavenging: This will be prevented by a fenced and gated facility.

2.13 N Cover combustible material: See 2.2

2.13 O Closure and Post-Closure Requirements: See Section 4.0- 6.4

# PART III TECHNICAL REPORT

## 3.0 MAPS

See Attached maps.

## 4.0 ENGINEERING REPORT

### 4.1 CELL DESIGN, COVER DESIGN, FILL METHODS, ELEVATION OF FINAL COVER (R315-310-3(1)(b))

This facility is located on a full section of land 640 acres. The landfill cell is approximately 10 acres.

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.

### 4.2 DESIGN AND LOCATION OF RUN-ON AND RUN-OFF CONTROL SYSTEMS (R315-310-5(2)(b))

4.2 There will be a dirt berm surrounding the landfill to prevent run-on and run-off of water from a 25year 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.

## 5.0 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**

5.1 CLOSURE SCHEDULE (R315-310-4(2)(d)(i))
This facility will be able to operate for about 10 years. The first landfill cell will hold over 600,000 cyds of material. Future growth and the economy will ultimately determine the life of the landfill.

5.2 DESIGN OF FINAL COVER (R315-310-4(2)(c)(iii) and (R315-305-5(5))
At final closure landfill will be closed as per applicable requirements with the State of Utah and Utah County, This will include covering landfill with 18" of soil and 6" of topsoil. Leveling and seeding 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 facility. As this is a Class VI landfill, liners and monitoring equipment are not required for final closure.

5.3 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 of material. At an average weight of 1.5 Ton per cubic yard this would equate to 900,000 Ton of material. The landfill cell ( Site B ) has a capacity of 350,000 cubic yards, which is approximately 525,000 ton. However, each type of waste will weigh differently per ton.

5.4 FINAL INSPECTION BY REGULATORY AGENCIES ( R315-310-4(2)(d)(iii))
Final closure of facility will be conducted as per regulation (R315-302-3(4)). This will include notification to 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.

## 6.0 POST -CLOSURE CARE PLAN (R315-310-3(1)(h))

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

6.1 SITE MONITORING (R315-310-4(2)(e)(i))
Site monitoring will be performed semi-annually. Any deficiencies or problems discovered will be corrected according to DEQ Rules and Regulations.
The items inspected: Fence and gates, any depressions or irregularities in the cover or topsoil from erosion.

### 6.2 CHANGES TO RECORD OF TITLE, LAND USE, AND ZONING RESTRICTIONS (315-310-4(2)(e)(v))

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.

### 6.3 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.

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

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

## 7.0 FINANCIAL ASSURANCE (R315-310-3(1)(j)

### 7.1 IDENTIFICATION OF CLOSURE COSTS, INCLUDING COST CALCULATIONS AND THE FUNDING MECHANISM (R315-310-4(2)(d)(iv))

Closure costs for this facility have been determined to be $14,720.50 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 IV b Landfill.

## 7.1(CONT.) COST ESTIMATE FOR CLOSURE CONSTRUCTION: PECK ROCK&PRODUCTS CLASS VI LANDFILL

| ITEM | UNIT | $/UNIT | #UNITS | COST | TOTAL |
|---|---|---|---|---|---|
| Survey | | 1000.00 | 1 | $1000.00 | $1000.00 |
| Contract Admin. | | 10% | | $750.00 | $1,750.00 |
| Project Management | | | | $500.00 | $2,250.00 |
| Place Cover Material | cyd | $2.00 | 5,000 | $10,000.00 | $12,250.00 |
| Re-vegetation | Acre | $200.00 | 5 | $1,000.00 | $13,250.00 |
| 1% Perf. Bond | | 1% | | $132.50 | $13,382.50 |
| 10% Contingency fee | | 10% | | $1,338.00 | $14,720.50 |
| TOTAL | | | | | **$14,720.50** |

## 7.2 IDENTIFICATION OF POST-CLOSURE CARE COSTS, INCLUDING COST CALCULATIONS AND THE FUNDING MECHANISM (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, fence/gate repair, run-on/run-off control.

POST CLOSURE CARE / PECK ROCK & PRODUCTS

| ITEM | UNIT | $/UNIT | #UNITS | COST |
|---|---|---|---|---|
| Semiannual Inspection | Year | $200.00 | 30 | $6000.00 |
| Place topsoil | cyd | $10.00 | 100 | $1000.00 |
| TOTAL | | | | $7000.00 |

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

7.3 IDENTIFICATION OF THE FINANCIAL ASSURANCE MECHANISM THAT MEETS THE REQUIREMENTS OF THE RULE R315-309 AND THE DATE 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 DOGM for the remainder of the mining operation.

# 8.0 SPECIAL REQUIREMENTS FOR A CLASS VI LANDFILL (R315-310-3(2))

Submit information required by the Utah Solid And Hazardous Waste Act Subsection 19-6-108(9) and 19-6-108(10) (R315-310-3(2)(a))

8.1 Reference 19-6-108 (9A)

Estimate of the composition, quantities, and concentrations of any hazardous waste identified under this part and the proposed treatment, storage or disposal of it;

8.1.1 The proposed Peck Rock Landfill plans only to accept construction and demolition debris (19-6-102(4)(a) and 19-06-102(5)). No hazardous waste (19-6-102(12)), household waste (19-6-102(11)), infectious waste (19-6-102(12)), mixed waste (19-6-102(14)), will be accepted at the site. Because of this and the waste exclusion program that will be in place, we estimate the composition, quantities, and concentrations of hazardous waste to be zero percent.

8.2 Reference 19-6-108(9B)

Evidence that the disposal of nonhazardous waste or treatment, storage, or disposal of hazardous waste will not be done in a manner that may cause or significantly contribute to an increase in serious irreversible or incapacitating reversible illness, or pose a substantial present or potential hazard to human health or the environment ;

8.2.1 The proposed Peck Rock Landfill plans only to accept construction and demolition debris (19-6-102(4)(a) and 19-06-102(5)). Therefore no material that could cause or significantly contribute to an increase in serious irreversible or incapacitating reversible illness, or pose a substantial present or potential hazard to human health or the environment will be accepted. The plan of operation addresses how the landfill will be operated, including the waste exclusion program and the waste handling procedures.

8.3 reference 19-6-108(9c)

consistent with the degree and duration of risks associated with the disposal of nonhazardous solid waste or treatment, storage, or disposal of nonhazardous solid waste or disposal of nonhazardous waste, evidence of financial responsibility in whatever form and amount that the executive secretary determines is necessary to insure continuity of

8.3 (Continue)operation and that upon abandonment, cessation, or interruption of the operation of the facility or site, all reasonable measures consistent with the available knowledge will be taken to insure that the waste subsequent to being treated, stored, or disposed of at the site or facility will not present a hazard to the public or the environment;
8.3.1 The facility will furnish a bond to cover all closure and post closure care costs before the facility opens.

8.4 Reference 19-6-108 (9d)
Evidence that the personnel employed at the facility or site have education and training for the safe and adequate handling of nonhazardous solid or hazardous waste;
8-4-1 The owners of the proposed Peck Rock Landfill have experience in the disposal of construction and demolition waste. They currently have a Class IV B Landfill and have been operating it for approximately 4 years. Because each landfill is unique and the plan of operations vary, basic operations will be learned as everyday operations start. The equipment operators will be trained or hired with the proper training in the safe and proper operations of the equipment and the landfill. We also will train employees in recognizing and not accepting hazardous waste.

8.5 Reference 19-6-108(9e)
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;
8-5-1 We will operate the landfill according to these requirements.

8.6 Reference 19-6-102(9f)
Compliance schedules, where applicable, including schedules for corrective action or other response measures for releases from any solid waste management unit at the facility, regardless of the time the waste was placed in the unit;
8-6-1 The Peck Rock Landfill will be a Class VI Construction and demolition only landfill. The facility will only accept construction and demolition waste (19-6-102(4)(a) and 19-06-102(5)) and yard waste (R315-301-2(84)). The landfill will only accept these materials. It does not require a liner or water monitoring, and will be below grade, no release of any material that will require remedial action is anticipated. Post closure rules will dictate any action required.

## 9.0 Reference 19-6-108(10a)

Evidence that the proposed commercial facility has a proven market of nonhazardous solid or hazardous waste, including;
19-6-108(10a)(i)) Information on the source, quantity and price charged for treating, storing and disposing of potential nonhazardous solid or hazardous waste in the state and regionally;
9-0-1 The Peck Rock landfill will be a Class VI construction and demolition only landfill. The facility will only accept construction and demolition waste(R315-301-2(16)) and yard waste(R315-301-2(84)). Sources for this waste comes from construction sites, demolition

9.0 (continue) of existing buildings, remodels, home and yard cleanup, and any other construction related activities. The annual tonnage for the area is estimated to be 850,000 ton per year.
At the moment, most of the tonnage is going into lined landfills, wasting very valuable municipal solid waste space. The price per ton varies form one landfill and transfer station to another.

| | |
|---|---|
| Trans Jordan Landfill | $22.00 @ Ton |
| Payson City Landfill | $15.00 @ Ton |
| Lindon Transfer Station | $31.50 @ Ton |
| Cedar Valley Transfer Station | $25.00 @ Ton |
| South Valley Transfer Station | $27.00 @ Ton |

9.0-A (19-6-108(10a)(ii))A market analysis of the need for a commercial facility given existing and potential generation of nonhazardous solid or hazardous waste in the State and regionally;
The 900,000 ton of construction and demolition debris estimated, will possibly be deposited at the Peck Rock Construction and Demolition Landfill, will be generated from Utah and Salt Lake Counties. The waste will either be directly delivered to the facility or transferred from a transfer station to the facility. The construction and demolition haulers and the expanding population of North Utah County and South Salt Lake County, are expected to use the facility because of the cost per ton rate and possible reduced travel cost to the facility. ** See attached population growth estimates**

9.0-B (19-6-108(10a)(iii) A review of other existing and proposed commercial nonhazardous solid or hazardous waste facilities regionally and nationally that would compete for the treatment, storage or disposal of the nonhazardous solid or hazardous waste;

9.0-C There are 4 commercial Class VI landfills that are potential competitors of the proposed Peck Rock Landfill. They are:

Mountain View Landfill
Waste Management Inc. Owner
6976 W. California Ave.
Salt Lake City, Utah

E.C.D.C.
ECDC Environmental LC. Owner
P.O. Box 69
East Carbon, Utah

Payson Landfill
Payson City Corp. Owner
6211 W. 10400 S.

9.0-C(cont.) Cedar Valley Landfill LC
Mike Dunn / Owner
96 South 1200 West
Lindon, Utah 84042

Mountain View Landfill is located approx. 37 miles by road North of the proposed Peck Rock Landfill.
ECDC Landfill is located approx. 115 miles south east of the proposed Peck Rock Landfill.
Payson Landfill is located approx. 30 miles by road south of the proposed Peck Rock Landfill.
Cedar Valley Landfill is located approx. 20 Miles west of the proposed Peck Rock Landfill.

9.1 A description of the public benefits of the proposed facility, including;
The need in the state for the additional capacity for the management of nonhazardous solid or hazardous waste;

9.1-A 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 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 Springs 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 the population to be over twenty times its 2000 population.

**See 30 year population growth data (enclosed.)***

As the existing Landfills near capacity in South Salt Lake County and population growth increases in North Utah County and Salt Lake County the need for increased landfill space is guaranteed. With more permitted facilities it is less likely that people will dump illegally. We hope to dramatically decrease the occurrence of illegal dumping in the area by providing a close, economically viable option to dumping in the foothills. The Peck Rock Landfill also believes that the availability of the facility will save the public money associated with the disposal of construction, demolition and yard waste. Another consideration is the fact that a substantial amount of the construction and demolition waste generated is ending up in landfill and transfer stations designed for municipal waste taking up valuable space and resources.

9.2 The energy and resources recoverable to the proposed facility;
The Steel and the Aluminum are a couple of items that could be recycled from this facility, however, the largest energy savings and resources recovered are because of the location

9.2(cont.) and characteristics of our facility. It is a clay pit and rock quarry where the mineral resources have been exhausted, leaving large open pit holes. Most landfills need to excavate large cells to deposit the waste, which requires a lot of fossil fuel to be used just to excavate the Landfill Cell. Because our Landfill is already excavated this will save thousands of gallons of Fuel. Other savings include our proximity to the majority of the growth that will take place. This will save on fuel and trucking costs.

9.3 The reduction of nonhazardous solid or hazardous waste management methods, which are less suitable for the environment, that would be made possible by the proposed facility;
The proposed Peck Rock Landfill will bury all waste, less any material that can be recycled. By burying wastes that are not economically feasible to recycle at this time and are not harmful to the environment, large amounts of waste will end up in a properly designated disposal site and not illegally dumped elsewhere. With the waste being buried, the chances of it migrating off site are very small. This proposed landfill will also be reclaiming the ground to its original level to provide future parks or green space and will also make the area safer for the public.

9.4 Whether any other available site or method for the management of hazardous waste would be less detrimental to the public health or safety or to the quality or the environment;
The proposed Peck Rock Landfill will be a Class VI construction and demolition landfill only. The construction, demolition and yard waste are not environmental unfriendly. These wastes do not require a liner or ground water monitoring, thus not requiring hazardous waste type management. No hazardous waste will be accepted at any time. This particular landfill cell is especially suited for a landfill site because of the clay that is naturally deposited in layers, this will act as a liner or barrier to any ground water.

9.5 Compliance history of an owner or operator of a proposed commercial nonhazardous solid or hazardous waste treatment, storage or disposal facility, which may be applied by the executive secretary in a nonhazardous solid or hazardous waste operation plan decision, including any plan conditions;
The owner and operator of the Peck Rock Landfill is Peck Rock & Products LLC. Which has successfully operated a Class IV b Landfill for four years and have always been in compliance with DEQ. The partners are Clay Peck & Cole Peck and have been in the mining and construction field for 25 years. Their experience in the clay mining industry will help them manage this landfill and complete the reclamation needs on this site.

# 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:_____

WHEN RECORDED RETURN TO:
Peck Rock & Products, LLC
1512 North 1300 East
Lehi, UT 84043

ENT 101115:2000 PG 1 of 1
RANDALL A. COVINGTON
UTAH COUNTY RECORDER
2000 Dec 21 3:40 pm FEE 10.00 BY SB
RECORDED FOR PECK, CLAY

# QUIT CLAIM DEED

**PACIFIC COAST BUILDING PRODUCTS, dba Interstate Brick Company,** Grantor, hereby quit claims to **PECK ROCK & PRODUCTS, LLC** of 1512 North 1300 East, Lehi, UT 84043, Grantee, for the sum of $10.00 and other good and valuable consideration, the following described lands in Utah County, Utah:

Township 6 South, Range 1 West, SLB&M

Section 2: SW¼SW¼NW¼; W½NW¼ SW ¼

(containing 30 acres, more or less, Tax Parcel ID #59-002-0005)

Subject to easements, restrictions and mineral reservations of record

Peck Rock & Products, LLC, or their successors and assigns, assume all reclamation liability and accept the property in its "as is" condition. The rights of Peck Rock & Products, LLC shall be subordinate to the rights of Grantor under existing and future mineral leases held by Grantor.

Granted this 7th day of December, 2000.

**ATTEST:**

James P. Thompson, Secretary

**Pacific Coast Building Products, dba Interstate Brick Company**

David J. Lucchetti, President

MARTHA L. FIERRO
COMM. #1257508
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Mar. 26, 2004

STATE OF CALIFORNIA )
:ss
COUNTY OF SACRAMENTO )

David J. Lucchetti, President of Pacific Coast Building Products Inc., dba Interstate Brick Company, attested by James B. Thompson, Secretary, acknowledged to me that said corporation executed the foregoing Quit Claim Deed this 7th day of December, 2000.

My Commission Expires:
March 26, 2004

NOTARY PUBLIC
Residing at: 10030 Crystal Creek Dr

State of Utah
*School and Institutional*
TRUST LANDS ADMINISTRATION

675 East 500 South, Suite 500
Salt Lake City, Utah 84102-2818
801-538-5100
801-355-0922 (Fax)
http://www.trustlands.com

Olene S. Walker
Governor
Kevin S. Carter
Director

January 14, 2004

Mr. Dennis R. Downs
Division Director
Utah Solid & Hazardous Waste
P.O. Box 144880
Salt Lake City, Utah 84114-4880

RE: Special Use Lease Agreement No. 1204
Township 6 South, Range 1 West SLB&M
Section 3: Lot 1 & 2, SW4NE4, SE4NE4 (within)
Containing 160.00 acres more or less

Dear Mr. Downs:

Trust Lands Administration is aware that Peck Rock & Products, LLC (Peck) have submitted an application to the Department of Environmental Quality for a Class VI Landfill Permit. This would allow for commercial and demolition waste to be interned at a site currently under lease from Trust Lands Administration, as described above.

Pursuant to a request from Mr. Clay Peck, Trust Lands Administration provides the following information about the above referenced Special Use Lease Agreement:

Special Use Lease Agreement No. 1204 (Lease) was issued to Peck Rock & Products, LLC (Lessee) for a term of eight years, beginning May 1, 2000. The leased premises contain 160.00 acres m/l. The Lease was issued for the purpose of establishing, operating and maintaining an industrial landfill site. The Lease provides that the Lessee shall not conduct commercial activities, including the recycling of materials, on the leased premises; and only construction materials resulting from Lessee's construction and demolition business activities shall be interned on the leased premises.

When this Class VI Landfill Permit is approved by the Department of Environmental Quality, Trust Lands Administration will proceed to amend our existing Lease to allow for a Class VI Landfill Permit, for commercial and demolition waste on the leased premises. The terms of the Lease will also be amended at that time.

Trust Lands Administration believes that this Class VI landfill permit is in the best interest of our agency and is in harmony with the future uses of our property in this area. We also believe that this accelerated use of the site will help resolve significant safety hazards and public interest issues in this sensitive area.

If you have any questions, or if I can provide any additional information please contact me at (801) 538-5100.

Sincerely,

Kurt M. Higgins
Realty Specialist

cc: Kim Christy
Tom Faddies
Clay Peck

RECEIVED

DEC 12 2003
03.04068
UTAH DIVISION OF
SOLID & HAZARDOUS WASTE

# SPECIAL USE LEASE AGREEMENT NO. 1204

**Fund: School**

The STATE OF UTAH, acting by and through the SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION, LESSOR, hereby leases to Peck Rock & Products, Co., LLC, a Utah limited liability company, 268 East 360 South, Lehi, Utah 84043, LESSEE, the following described tract of trust land (the "leased premises") in Utah County, Utah, to-wit:

Township 6 South, Range 1 West, SLB&M,
Section 3: Lots 1 and 2, SW4NE4,SE4NE4

containing 160 acres more or less.

TO HAVE AND TO HOLD for a term of eight (8) years, beginning May 1, 2000, and expiring April 30, 2008, subject to any and all existing valid rights in said land and subject also to the following terms and conditions. LESSOR and LESSEE enter into this Special Use Lease Agreement (the "Lease") for the purpose that LESSEE develop the land in the manner hereinafter described and consistent with the principles and objectives of land development expressed and implicit in the Enabling Act of Utah (Act of July 16, 1894, Ch. 138, 28 Stat. 107) and Article X of the Constitution of the State of Utah. The LESSEE takes this Lease subject to the continued regulation of the School and Institution Trust Lands Administration pursuant to the rules of the Trust Lands Administration as they may be adopted hereafter.

1. Purpose of Lease. The leased premises shall be used by LESSEE for the purpose of establishing, operating and maintaining an industrial landfill. Lessee shall not conduct commercial activities, including the recycling of materials on the leased premises; only construction materials resulting from LESSEE'S construction and demolition business activities shall be interned on the leased premises. LESSEE acknowledges that other uses are presently permitted by LESSOR on the leased premises. LESSEE will coordinate its activities with all other permittees and lessees, as listed on Exhibit "A," so that its activities do not adversely impact existing uses of the leased premises.

2. Rental and Royalty. LESSEE shall pay the following amounts to LESSOR:

a. LESSEE shall pay annually in advance to the LESSOR, as rental for the subject tract, the sum of Five Thousand Dollars ($5,000.00). This rental amount shall apply for the first two (2)-year period of this lease. Thereafter the rental shall be adjusted pursuant to paragraph 6 below. LESSOR acknowledges the receipt of Eight Thousand Four Hundred Fifty Dollars ($8,450.00) which is payment of rental for the year May 1, 2000 through April 30, 2001, and which includes a Two Hundred Fifty Dollar ($250.00) application fee and a Seven Hundred Dollar ($700.00) lease processing charge and Two Thousand Five Hundred dollars for the quarterly advance royalty payment for the period June 1, 2000 through August 31, 2000. In the event LESSEE fails to pay the rental for a period of one (1) month from the date such rent is due, and upon expiration of a written notice from LESSOR to LESSEE requiring performance within thirty (30) days, LESSOR shall deem LESSOR to be in default and the LESSOR may forfeit the

LESSEE's interest in the Lease and all improvements or take other legal remedies available at law.

b. LESSEE shall also pay to LESSOR, a royalty in the amount of Two Dollars and Twelve Cents ($2.12) per ton of material interned on the leased premises. LESSEE shall make an advance annual minimum royalty payment to LESSOR for the use of the leased premises in the amount of Ten Thousand Dollars ($10,000.00). The advance minimum royalty shall be paid in quarterly installment payments of Two Thousand Five Hundred Dollars ($2,500.00) on or before the first day of March, June, September and December during the term of this Lease. Advance minimum royalty payments shall be credited against actual production royalties for the lease year in which they accrue and may not be carried forward from year to year. Each truck load of material transported to the leased premises will be weighed on certified scales and a ticket issued for each load. The tickets will be made available to LESSOR upon its request. LESSEE's failure to timely submit advance minimum royalty payments shall constitute a default under this Lease; provided, however, that LESSEE may remedy such default by paying LESSOR One Hundred Ten Percent (110%) of the amount of the delinquent advance minimum royalty payment within thirty (30) days after written notice of such default is given by LESSOR.

3. Operations. LESSEE shall submit to LESSOR a detailed plan of operations and obtain approval before commencing its activities. The plan of operations shall provide:

a. interned materials will be placed in lifts not to exceed ten (10) feet in thickness and each of the lifts of construction material will be covered with a lift of rock or borrow material in compacted lifts of not less than six (6) feet in thickness;

b. interned materials will be covered weekly, the leased premises will be inspected daily and no waste or litter will remain outside the internment area;

c. each truckload of materials shall be accompanied by a copy of the State of Utah Department of Health certificate of inspection and copies shall be made available to LESSOR upon written request; and

d. no materials including common varieties of sand and gravel, topsoil, clay, rock, subsoil, earthen fill or engineered fill present at the leased premises may be utilized by LESSEE unless LESSEE first obtains a materials permit or minerals lease from LESSOR at a royalty rate to be determined by LESSOR.

4. Reclamation. LESSEE shall submit to LESSOR a detailed plan of reclamation and obtain LESSOR approval prior to commencing its activities. The plan of reclamation will provide for the final capping of the impoundment areas and allow for positive drainage and re-establishment of surface plant cover. The plan of operations is subject to modification at any time by LESSOR.

5. Due Diligence. LESSEE agrees that if, at the end of a one (1)-year period, LESSEE has not substantially completed the improvements to be made to the land, as specified in Paragraph 1 above, LESSOR shall thereafter have the right to terminate this Lease by giving written notice thereof to LESSEE. Such termination shall be effective thirty (30) days after the

giving of such notice. LESSOR shall have the right, in lieu of such termination, to grant extensions in writing to such due diligence requirement, as LESSOR deems advisable in its sole discretion.

6. Rental and Royalty Adjustments. LESSEE agrees that LESSOR shall have the right to adjust the rentals and royalties provided for in Paragraph 2 at the end of the second-year period, and every two years thereafter, as LESSOR shall deem to be reasonably necessary in its best interest. The annual rental will be adjusted on the review dates utilizing an index approved by LESSOR. The first review date will be May 1, 2002. Additionally, LESSOR and LESSEE contemplate that the leased premises shall be annexed into the Town of Saratoga Springs and in that event if LESSEE becomes obligated to pay the Town of Saratoga Springs for each ton of interned materials, LESSOR shall reduce its royalty rate in a like amount, not to exceed Twenty Five Cents ($0.25).

7. Permitting; Compliance. LESSEE shall obtain and keep in effect a conditional use permit from Utah County to operate an industrial landfill on the leased premises and LESSEE shall obtain and keep in effect a permit from the State of Utah Department of Environmental Quality, Division of Solid and Hazardous Waste to operate an industrial landfill on the leased premises. LESSEE, in exercising the privileges granted by this Lease, shall comply with the provisions of each of these permits and all Federal, State, County, and Municipal laws, ordinances, and regulations which are applicable to the leased premises and operations covered by this Lease.

8. Survey Monuments. LESSEE shall take reasonable precautions to protect, in place, all public land survey monuments and private property corners.

9. Access. LESSEE agrees to permit LESSOR free and unrestricted access to and upon the leased premises at all reasonable times for all lawful and proper purposes not inconsistent with the intent of this Lease or with the reasonable exercise and enjoyment by the LESSEE of the rights and privileges granted herein. LESSEE will provide LESSOR with keys to any locked gates erected on the property pursuant to paragraph 26.

10. Antiquities. It is hereby understood and agreed that all treasure-trove and all articles of antiquity in or upon the leased premises are and shall remain the property of the State of Utah. LESSEE shall report any discovery of a "site" or "specimen" to LESSOR and the Division of State History in compliance with the provisions of Section 9-8-305, Utah Code Annotated (1953), as amended and take such action as may be required for the protection of said site or specimen.

11. Default. In the event of a default or breach by LESSEE and LESSEE's failure to cure such default or breach, LESSOR may at any time and with or without notice do any one or more of the following:

a. Re-enter the leased premises, remove all persons and property, and repossess and enjoy such premises.

b. Terminate this Lease and LESSEE's right of possession of the leased premises. Such termination shall be effective upon LESSOR's giving written notice and upon receipt of such notice LESSEE shall immediately surrender possession of the leased premises to LESSOR. Upon such termination, all improvements on the leased premises shall, at LESSOR's discretion, be forfeited and become the property of the LESSOR subject only to any previously approved waiver of interest or security interest.

c. Maintain this Lease in full force and effect and recover any rental, royalty, or other consideration as it becomes due without terminating LESSEE's right of possession regardless of whether LESSEE shall have abandoned the leased premises.

d. The LESSOR may seek damages for any and all violations or defaults with or without canceling this Lease. In the event LESSOR deems the breach or default to constitute a threat to safety, life, or property it may elect to intervene immediately, without notice, to remedy the breach or default and LESSEE hereby agrees to repay LESSOR for all costs in remedying the breach or default upon demand, together with interest thereon from the date of expenditure at the rate set forth in this Lease. Alternatively, LESSOR may require LESSEE itself to act immediately to remedy the breach or default, should LESSOR deem it a threat to safety, life, or property.

e. Exercise any other right or remedy which LESSOR may have at law or equity.

12. Survival. LESSEE agrees that all obligations of LESSEE to be performed prior to the expiration or earlier termination shall not cease upon the termination or expiration of this Lease, and shall continue as obligations until fully performed. All clauses of this Lease which require performance beyond the termination or expiration date shall survive the termination or expiration date of this Lease. However, upon expiration or earlier termination of this Lease, the rights of LESSEE and of all persons, firms, corporations, and entities claiming under LESSEE in and to the leased premises and all improvements hereon, unless specified otherwise in this Lease, shall cease.

13. Lessor's Right to Cure Defaults. If LESSEE fails to perform and is in default of any undertaking or promise contained herein, including those set forth in any plan of development, the LESSOR shall have the option, but is not obligated, to make such performance after giving 10 days written notice to the LESSEE. The LESSOR's costs and expense to correct LESSEE's failure to perform shall be reimbursed by LESSEE and shall be immediately due and payable, together with interest accruing from the date such cost or expense is incurred.

14. Remedies Cumulative. The specified remedies to which the LESSOR may resort under the terms of this Lease are cumulative and are not intended to be exclusive of any other remedies or means of redress to which LESSOR may lawfully be entitled in case of any breach or threatened breach by LESSEE of any provision of this Lease.

15. Force Majeure. The LESSEE's failure to comply with any of the obligations under this Lease shall be excused only if due to causes beyond LESSEE's control and without the fault or negligence of the LESSEE, including acts of God, acts of the public enemy, acts of any

government, fires, floods, epidemics and strikes. LESSEE's obligation to pay rentals will not be suspended by any event of force majeure.

16. Bond. LESSEE agrees to furnish LESSOR a performance and reclamation bond in such type and amount and by such date as LESSOR may request. Further, it is expressly agreed that LESSOR may at any time, upon 30 days notice by certified mail, require LESSEE to furnish LESSOR such additional performance and reclamation bond as LESSOR may deem to be in the best interest of the State of Utah. No use of the leased premises is permitted until said performance bond is in place.

17. Improvements upon Termination or Expiration. Upon the expiration or earlier termination of this Lease, LESSEE shall have the right to remove from the leased premises all personal property and fixtures. All physical improvements attached to the land shall become the property of LESSOR upon such expiration or termination; provided that by written notice given within thirty (30) days of such expiration or termination, LESSOR may require LESSEE to remove any such improvements at LESSEE's sole cost and expense, in which event LESSEE shall cause such improvements to be removed and the land restored within sixty (60) days of the giving of such notice.

18. Indemnity. LESSEE agrees to protect, indemnify and save harmless the LESSOR, its agents and employees, from and against all claims, demands, damages, and causes of action of every kind or character on account of bodily injuries, death, or damage to property arising because of, for, out of, or in any way connected with the performance of this agreement, except where such injury, death, or damage has resulted from the sole negligence of the LESSOR, without negligence or willful act on the part of the LESSEE, its agents, employees, or subcontractors, it being the intent of this provision that the LESSEE indemnify the LESSOR and its agents and employees regardless of whether or not such injury, death, or damage is caused in part by the LESSOR, its agents and employees. LESSEE shall defend all suits brought upon such claims and pay all costs and expenses incidental thereto, but the LESSOR shall have the right, at its option, to participate in the defense of any such suit without relieving the LESSEE of any obligation hereunder.

19. Insurance.

a. Bodily Injury, Property Damage and Other Insurance. In addition to the insurance required in a. above, LESSEE, at its sole cost and expense, shall purchase and maintain during the entire term the following insurance, subject to the terms and conditions set forth in c. below:

(i) Comprehensive bodily injury and property damage liability insurance against claims for bodily injury, death, or property damage, occurring in, on, or about the leased premises (including any injury, death, or property damage arising from a hazardous activity permitted under the Lease), such insurance to afford minimum protection during the entire term of not less than One Million Dollars ($1,000,000.00) in respect of bodily injury or death to any one person or in respect of any one accident, and of not less than One Million Dollars ($1,000,000.00) for property damage, the foregoing dollar amounts being subject to increase by the percentage increase in the CPI not more frequently than every five (5) lease years, provided that LESSEE

shall not carry less than the amount or scope of coverage customary in the mining and construction industries from time to time; and,

(ii) During any period of building construction, including the construction of the initial improvements, and all alterations and restorations:

(a) Builder's Risk Insurance written on the Completed Value Form or on the Monthly Reporting form;

(b) Workers compensation insurance covering all persons employed in connection with the work and with respect to whom death or bodily injury claims could be asserted against LESSOR, LESSEE, or the premises; and

c. Conditions and Requirements of Insurance. All insurance required by this Article and any additional insurance maintained by LESSEE with respect to the leased premises and improvements shall:

(i) Name LESSOR as loss payee or additional insured as its interest may appear;

(ii) Be effected under valid and enforceable policies issued by insurers of recognized responsibility that are licensed to do business in the State of Utah, including insurance pools or risk management arrangements which may generally provide such insurance coverage in the mining and construction industry(s) from time to time;

(iii) Expressly waive any right of subrogation against LESSOR; and,

(iv) Have attached thereto:

(a) An endorsement that such policy shall not be canceled without at least thirty (30) days' prior written notice to LESSOR; and,

(b) An endorsement to the effect that no act or omission of LESSEE shall invalidate the interest of LESSOR therein.

(v) Provide that the insurance coverage for the State or LESSOR is primary and not contributing; that other insurance of the State or LESSOR is excess over the insurance required by this Lease; and, the amount of the insurance company's liability or coverage limits required by this Lease shall not be reduced by the existence of other State or LESSOR insurance.

d. Copies of Policies to Lessor. Upon the commencement date, and thereafter not less than thirty (30) days prior to the expiration dates of the policies furnished pursuant to this Article, LESSEE shall deliver to LESSOR policy copies of certificates thereof, in the case of bodily injury and property damage liability insurance, bearing notations evidencing the payment of premiums or accompanied by other evidence of such payment.

e. Adjustments. LESSOR and each mortgagee shall have the right to participate in the adjustment of any insurance claim filed by LESSEE relating to any insurance required by this

Article to the extent necessary to protect their respective interests in the leased premises and the improvements.

20. Condemnation.

a. Total taking.

(i) Termination and distribution. If at any time during the term of this Lease, the whole or the leased premises is taken by condemnation or other act of eminent domain (a "Taking" or "Taken"):

(a) this Lease shall terminate and expire on the date of such Taking and LESSEE shall pay within thirty (30) days after the date of Taking all lease rentals accrued to the date of Taking;

(b) LESSEE shall comply with all of its other obligations under this Lease up to the date of Taking; and

(c) LESSEE's share of any condemnation award shall be disbursed to LESSEE.

b. Partial taking.

(i) Continuation of Lease. If at any time during the term of this Lease title to less than the whole of the leased premises has been Taken, LESSEE shall have the right but not the obligation to continue this Lease. LESSEE may, within thirty (30) days after receiving its share of the condemnation award, give notice of its election to terminate this Lease, provided that each mortgagee consents in writing to such termination.

(ii) Proceedings. LESSOR, LESSEE, and any mortgagee shall have the right to participate in respect of their respective interests in any proceeding of purchase negotiations relating to any Taking. In case of any Taking, LESSEE shall bear its proportionate share of all reasonable costs and fees, including reasonable counsel fees and expenses incurred in the determination and collection on any condemnation award. LESSOR shall bear only such costs, expenses, and fees as it may authorize in writing.

21. Assignment and Sublease. LESSEE shall not assign this Lease, in whole or in part, nor sublease the leased premises, nor allow unauthorized or commercial use of the leased premises without obtaining the prior written consent of LESSOR.

a. In granting such approval, LESSOR reserves the right to change the terms and conditions of this Lease as it may affect the sublessee/assignee. The LESSOR shall be entitled to consider, among other items, the proposed sublessee's/assignee's financial condition, managerial capability, business reputation, nature of the proposed sublessee's/assignee's business, the then current fair market rental value of the premises, and such other factors as may reasonably bear upon the suitability of the sublessee/assignee or transferee as a tenant of the leased premises or the holder of this Lease.

b. Approval may also be conditioned on, among other items, additional payment to reimburse the LESSOR for any additional costs of management or losses of payments resulting from the assignment.

c. Consent of the LESSOR to an assignment or transfer shall not constitute a waiver of the LESSOR's right to approve subsequent assignments or transfers. The acceptance by LESSOR of payment or performance following an assignment or transfer shall not constitute consent to any assignment or transfer, and LESSOR's consent shall be evidenced only in writing.

d. An assignment does not constitute a new lease but is a continuation of the existing Lease.

22. Mineral Exploration. LESSOR expressly reserves the right to lease the leased premises to third parties for mineral exploration and/or development purposes together with the right to grant the mineral lessee reasonable access by ingress and egress to and from the mineral estate through the surface estate in connection with mineral exploration and/or development, but without damage to improvements made by LESSEE.

23. Title. LESSOR claims title in fee simple but does not warrant to LESSEE the validity of title to the leased premises. LESSEE shall have no claim from damages or refund against the LESSOR for any claimed failure or deficiency of LESSOR's title to said lands or for interference by any third party. LESSEE takes possession subject to all existing encumbrances, rights-of-way, or encroachments as may exist or be of record. Possession is subject to a reservation of rights-of-way as may be necessary to access other state land.

24. Water Rights. If LESSEE shall initiate or establish any water right on the leased premises, such right shall become an appurtenance of the leased premises. LESSEE agrees that any existing application to appropriate water on the leased premises shall be transferred to LESSOR after the application has been completed, without any cost to the State. It is expressly understood and agreed that this Lease does not confer any rights upon LESSEE to use any water presently developed.

25. Fire. LESSEE shall at all times observe reasonable precautions to prevent fire on the leased premises and shall comply with all applicable laws and regulations of any governmental agency having jurisdiction. In the event of a fire on the leased premises proximately caused by LESSEE, its servants, employees, agents, sublessees, assignees or licensees which necessitates suppression action, LESSEE agrees to reimburse LESSOR for the cost of such fire suppression action.

26. Fencing. In addition to the requirements of the permits obtained from State and County regulatory agencies, LESSEE shall keep the leased premises gated, fenced, locked and take other precautions as necessary to insure no unauthorized materials are interned on the leased premises. LESSEE shall fence and gate the leased premises at its own expense.

27. Waste. LESSEE shall neither commit nor permit any waste on the leased premises. LESSEE shall maintain said lands in good condition and at its own expense, free from any nuisance. Surface and subsurface areas will be cleaned of all trash, debris, and waste of any kind

to the satisfaction of the LESSOR. LESSEE shall maintain the leased premises to standards of repair, orderliness, neatness, sanitation, and safety as required by law and applicable regulations.

28. Pollution. LESSEE shall be bound by all of the environmental regulatory programs, including air quality, water pollution and water quality, solid and hazardous waste management and underground storage tanks, and other conditions as contained in the provisions, conditions, and rules and regulations developed under authority of Title 19, Utah Code Annotated (1953) as amended.

29. Hazardous, Toxic, or Harmful Substances.

a. LESSEE shall not make, or suffer to be made, any filling in of the lease premises or any deposit of, refuse, garbage, asbestos, dead animals, agricultural wastes, batteries, liquids of any type, tires, paint, radioactive materials, chemical, biological or other wastes, hydrocarbons, any other pollutants, or other matter within or upon the lease premises, except as approved in writing by the LESSOR and as provided specifically for elsewhere in this Lease. If the LESSEE fails to remove all non-approved fill material, refuse, garbage, wastes or any other of the above materials from the lease premises, the LESSEE agrees that the LESSOR may, but is not obligated to, remove such materials and charge the LESSEE for the cost of removal and disposal.

b. LESSEE shall not keep on or about the lease premises any substances now or hereinafter designated as or containing components now or hereinafter designated as hazardous, toxic, dangerous, or harmful, and/or which are subject to regulation as hazardous, toxic, dangerous, or harmful by any federal, state or local law, regulation, statute or ordinance (hereinafter collectively referred to as "Hazardous Substances").

c. LESSEE shall:

(1) Immediately notify the LESSOR of (i) all spills or releases of any Hazardous Substance affecting the premises, (ii) all failures to comply with any federal, state or local law, regulation or ordinance, as now enacted or as subsequently enacted or amended, (iii) all inspections of the premises by, or any correspondence, orders, citations, or notifications from any regulatory entity concerning Hazardous Substances affecting the premises, (iv) all regulatory orders or fines or all response or interim cleanup actions taken by or proposed to be taken by any government entity or private party concerning the leased premises; and

(2) On request, provide copies to the LESSOR of any and all correspondence, pleadings, and/or reports received by or required of LESSEE or issued or written by LESSEE or on LESSEE's behalf with respect to the use, presence, transportation or generation of Hazardous Substances related to the leased premises.

d. LESSEE shall be fully and completely liable to the LESSOR, and shall indemnify, defend, and save harmless LESSOR and its agencies, employees, officers, and agents with respect to any and all damages, costs, fees (including attorneys' fees and costs), penalties (civil and criminal), and cleanup costs assessed against or imposed as a result of LESSEE's use, disposal, transportation, generation and/or sale or Hazardous Substances or that of LESSEE's

employees, agents, assigns, sublessees, contractors, subcontractors, licensees or invitees, and for any breach of this subsection.

30. No Partnership. The LESSOR is not a partner nor a joint venturer with the LESSEE in connection with the activities conducted and business carried on under this Lease and the LESSOR shall have no obligation with respect to the LESSEE's debts or other liabilities.

31. Time of Essence. Time is expressly declared to be of the essence of this Lease and each and every covenant of LESSEE hereunder.

32. Amendments. Any amendments, revisions, supplements, or additions to this Lease or the attached exhibits shall be made in writing executed by the parties hereto, and neither LESSOR nor LESSEE shall be bound by verbal or implied agreements.

33. Entire Agreement. This written Lease or its successor or replacement contains the entire agreement of the parties hereto with respect to the matters covered hereby, and no other agreement, statement or promise made by any party hereto, or to any employee, officer or agent of any party hereto, which is not contained herein, shall be binding or valid.

34. Invalidity. If any term or provision of this Lease or the application thereof to any person or circumstance shall to any extent prove to be invalid, unenforceable, void, or illegal, the remainder of this Lease, or the application of such term or provision to persons or circumstances other than those as to which it is invalid or unenforceable, shall be not affected thereby, and each term and provision of this Lease shall be valid and be enforced as written to the fullest extent permitted by law.

35. Consent to Suit. The LESSEE consents to suit in the courts of the LESSOR in any dispute arising under the terms of this Lease or as a result of operations carried on under this lease. Service of process in any such action is hereby agreed to be sufficient if sent by certified mail to the LESSEE at the last known address of LESSEE appearing on the LESSOR's records.

36. Venue. The LESSEE agrees for itself, its heirs, successors and assigns that any suit brought by the LESSEE, its heirs, successor or assigns concerning this Lease may be maintained only in the Utah State District Court of Salt Lake County.

37. No Waiver of Conditions. Waiver by the LESSOR of any default of the LESSEE or failure of the LESSOR to timely enforce any provisions of this Lease shall not constitute a waiver of or constitute a bar to subsequent enforcement of the same or other provisions of this Lease. No provision in this Lease shall be construed to prevent the LESSOR from exercising any legal or equitable remedy it may otherwise have.

38. Inspection of Books. LESSEE shall permit any authorized representative of the LESSOR to examine all books and records pertaining to its operations and royalties payable to LESSOR under the Lease at their regular place of business with reasonable notice, and to make copies of and extracts from such books and records if desired.

39. Right to Audit. The LESSOR has the right to audit the LESSEE's performance of the terms and conditions of this Lease. Nevertheless, it is the continuing duty of the LESSEE to faithfully perform all of the terms, conditions, and obligations of this Lease, including, but not limited to, the duty to properly calculate and render to the LESSOR any and all amounts due. Any term, condition, provision, or obligation subject to change or interpretation shall be deemed self-executing, and shall in no way shift or relieve the LESSEE of its continuing duties and obligations.

40. Attorney's Fees. In the event the LESSOR shall prevail in any action or suit for the enforcement of any provision of this Lease or concerning this Lease in any manner, the LESSEE shall pay to the LESSOR a reasonable attorney's fee on account thereof.

41. Lessor's Lien. LESSOR shall have at all times a valid lien for all rentals and other sums of money becoming due hereunder from LESSEE, upon all goods, wares, equipment, fixtures, furniture and other personal property of LESSEE situated on the leased premises, and such property shall not be removed therefrom without the consent of the LESSOR until all arrearage in rent as well as any and all other sums of money then due to LESSOR hereunder shall first have been paid and discharged. Upon the occurrence of any event of default by LESSEE, LESSOR may, in addition to any other remedies provided herein or by law, enter upon the leased premises and take possession of any and all goods, wares, equipment, fixtures, furniture and other personal property of LESSEE situated on the leased premises without liability for trespass or conversion, and sell the same with or without notice at public or private sale, with or without having such property at the sale, at which LESSOR or its assigns may purchase, and apply the proceeds thereof less any and all expenses connected with the taking of possession and sale of the property, as a credit against any sums due by LESSEE to LESSOR. Any surplus shall be paid to LESSEE and LESSEE agrees to pay any deficiency forthwith. Alternatively, the lien hereby granted may be foreclosed in the manner and form provided by law for foreclosure of security interest or in any other form provided by law. The statutory lien for rent is not hereby waived, the express contractual lien herein granted being in addition and supplementary thereto. Anything herein to the contrary notwithstanding, purchase money financing of LESSEE's removable trade fixtures and equipment shall not be a default. LESSEE will execute upon LESSOR's request a financing statement and security agreement evidencing LESSOR's security interest in LESSEE's personal property and warrants to LESSOR that there are no prior liens or security interest on said personal properties.

42. Notice. Any notice contemplated herein to be served upon LESSEE shall be in writing and shall be deemed sufficient if deposited in the United States mail, postage prepaid and certified or registered, and addressed as follows:

Peck Rock & Products, Co., LLC
268 East 360 South
Lehi, Utah 84043

or at any such other address as LESSEE may from time to time designate by written notice to LESSOR.

43. Responsibilities of Successors. The provisions hereof shall inure to and be binding upon the successors and assigns of LESSEE.

IN WITNESS WHEREOF, the State of Utah, by and through the School and Institutional Trust Lands Administration, has caused these presents to be executed this 19th day of July, 2000, by the Director.

**LESSOR:**

STATE OF UTAH
SCHOOL AND INSTITUTIONAL
TRUST LANDS ADMINISTRATION
675 East 500 South, Suite 500
Salt Lake City, Utah 84102-2818

By: David T Terry
DAVID T. TERRY, DIRECTOR

APPROVED AS TO FORM:
JAN GRAHAM
ATTORNEY GENERAL

BY: Dawn Soper
Dawn Soper
Assistant Attorney General

Date: July 10, 2000

**LESSEE:**

Peck Rock and Products, Co., LLC
268 East 360 South
Lehi, Utah 84043

By: Clay Peck

STATE OF UTAH )
: §
COUNTY OF SALT LAKE )

On the 19th day of July, 2000, personally appeared before me David T. Terry, who being by me duly sworn did say that he is the Director of the School and Institutional Trust Lands Administration, and the signer of the above instrument, who duly acknowledged that he executed the same.

Given under my hand and seal this 19th day of July, 2000.

Stephanie Titmus
Notary Public

My commission expires: 2/19/03

STEPHANIE TITMUS
NOTARY PUBLIC • STATE of UTAH
675 EAST 500 SOUTH #500
SALT LAKE CITY, UT 84102
COMM. EXP. 2-19-03

STATE OF UTAH )
: §
COUNTY OF UTAH )

On the 18 day of July, 2000, personally appeared before me Clay Peck, who being by me duly sworn did say that (s)he is the Manager of Peck Rock and Products Co., LLC and the authorized signer of the above instrument, who duly acknowledged that (s)he executed the same.

Given under my hand and seal this 18 day of July, 2000.

My commission expires:

Notary Public Roger C. Tolman

NOTARY PUBLIC
ROGER C. TOLMAN
620 East Main
Lehi, Utah 84043
My Commission Expires
March 25, 2004
STATE OF UTAH

**EXHIBIT "A"**

Current permittees and lessees:

ML 46231-Clay and Cole Peck (DBA Peck Rock and Products), 1512 North 1300 East, Lehi, Utah 84043

ML 17806-Interstate Brick, 9780 South 5200 West, West Jordan, Utah 84088

ML 46994-Clay and Cole Peck (DBA Peck Rock and Products) 1512 North, 1300 East, Lehi, Utah 84043

ML 44800-Interstate Brick, 9780 South 5200 West, West Jordan, Utah 84088

ML 46841-Interstate Brick, 9780 South 5200 West, West Jordan, Utah 84088

GP 22121, Sale Vacher, P.O. Bos 265, Goshen, Utah 84633

SULA 673-Energetic Solutions, Inc., 9781 South Meridian Blvd, Suite 400, Englewood, Colorado 80112

ESMT 61- Reid Wayman, 3505 North West Lake road, Lehi, Utah 84043

ROW 3135-Pacificorp, (DBA Utah Power), 1407 West North Temple, Property Department Room 110, Salt Lake City, Utah 84140

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 aide 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

Dale Ekins, Chief
Lehi Fire Department

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Municipal Engineering
Transportation Engineering
Development Engineering
NEPA Environmental Services

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 is 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. Kenison, P.E.

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

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American Fork, UT 84003
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Facsimile: 801-756-8881
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# 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 | | | | | | |
|---|---|---|---|---|---|---|
| Municipality | Type | 2000 | | 2020 | | AARC |
| **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 | 48,326 | 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 | 49,956 | 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 | 1250 | 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 | 96,039 | 100,020 | 103,000 | 0.67% |
| Payson | city | 12,716 | 20,606 | 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% |
| Vineyard | 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% |

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Transportation Engineering
Development Engineering
NEPA Environmental Services

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)<br>4755' (bottom) | Groundwater Anticipated at 95' depth | No Groundwater Encountered. Site Excavated to approx. 100' depth. |
| **Landfill Site B** | 4870' (top)<br>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

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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.

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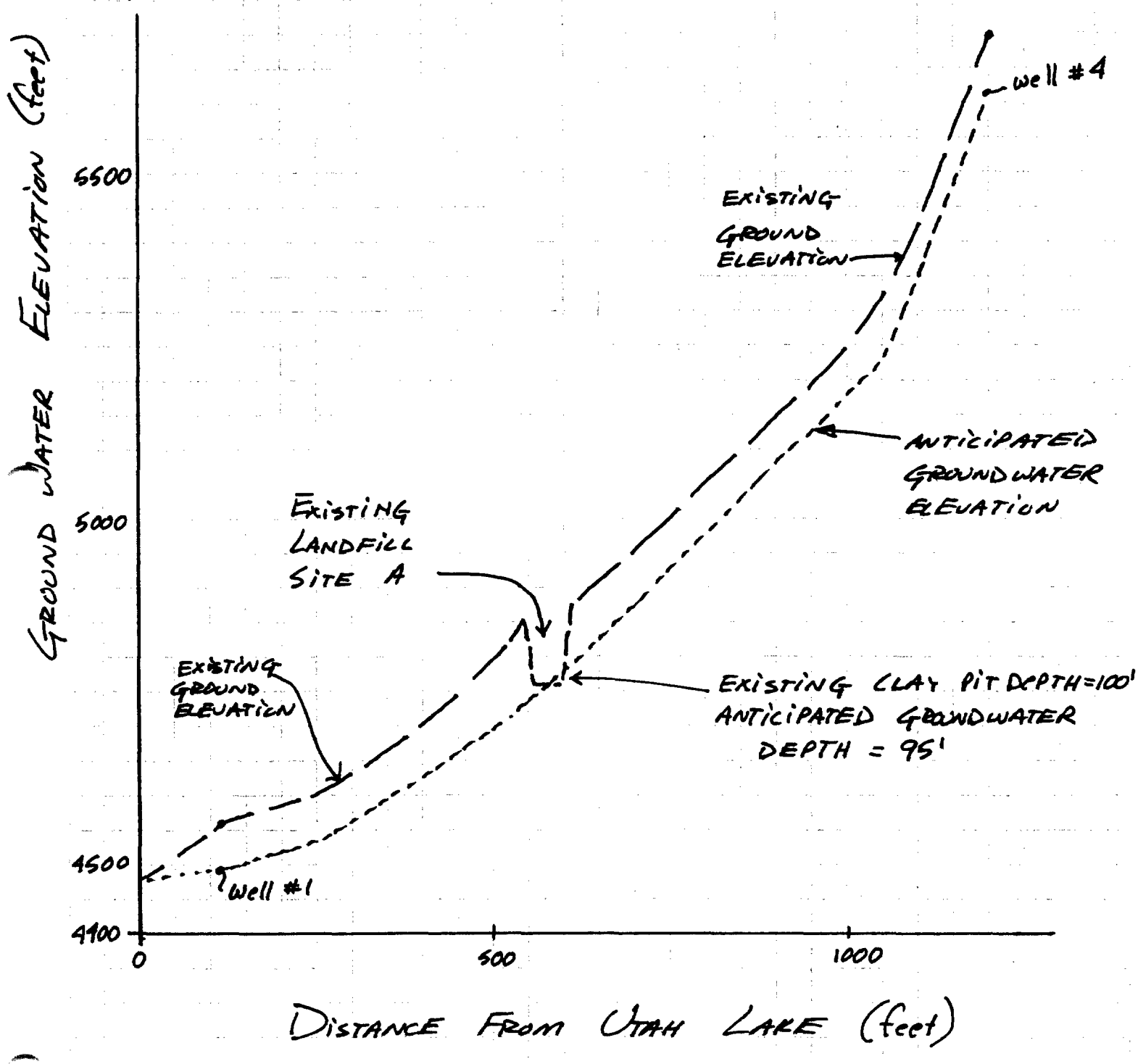
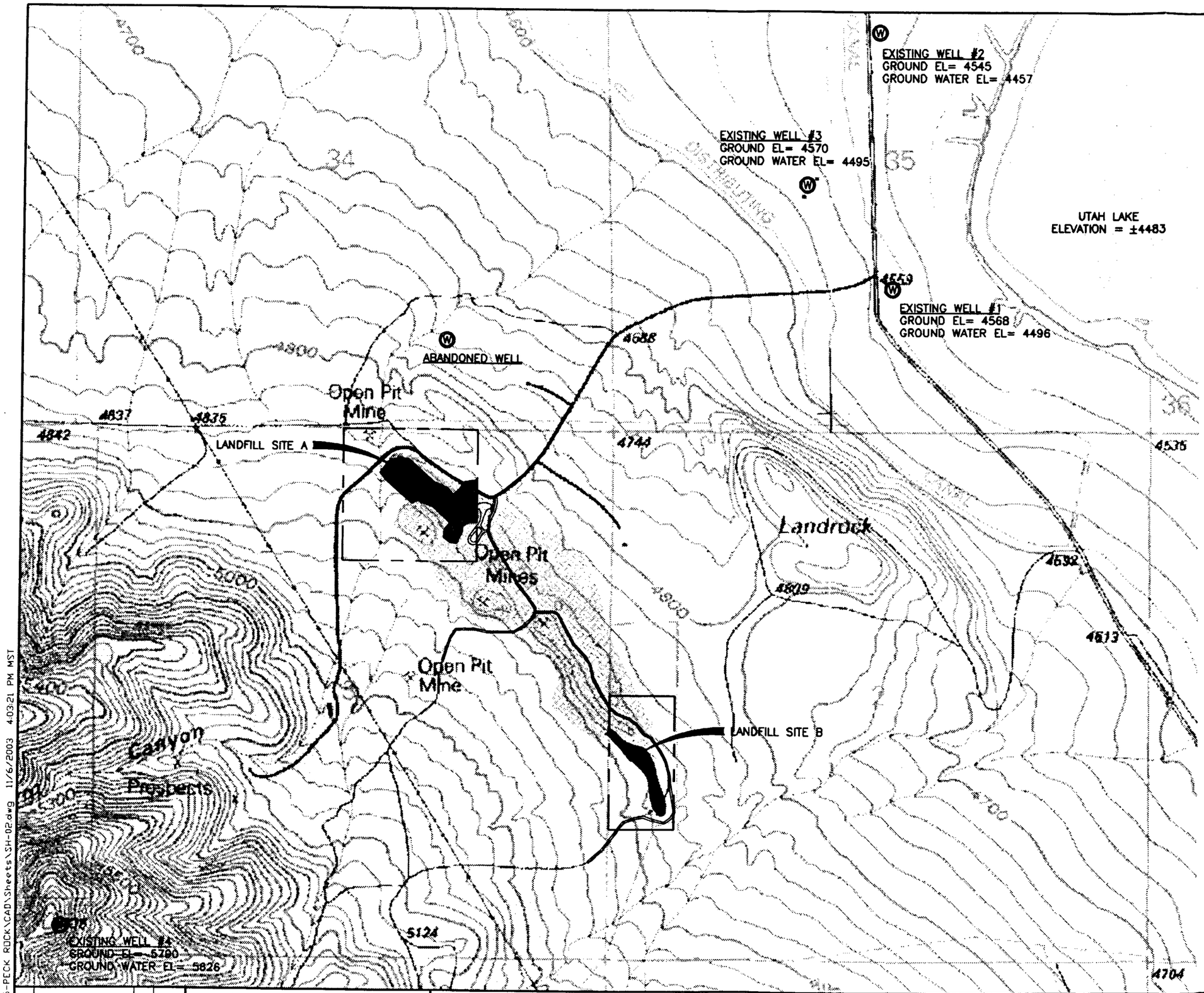
CLIENT Peck Rock Products JOB NO. 03-135-00-02
PROJECT Proposed Class VI Landfill - Saratoga
MADE BY BAK DATE 11-10-03
CHECKED BY _____ DATE _____ SHEET _____ OF _____






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.

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|

DRAWN TT DATE

CHECKED BAK PROJECT ENGINEER DATE

APPROVED BAK PROJECT MANAGER 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: SH-02

SCALE: AS SHOWN

O:\2003\03135-PECK ROCK\CAD\Sheets\SH-02.dwg 11/6/2003 4:03:21 PM MST

# North Pointe Solid Waste Special Service District

2000 West 200 South, Lindon, Utah 84042 Telephone: (801) 225-8538 Fax: (801) 225-8170
e-mail: northpointe@mcleodusa.net

## FEES & CHARGES - EFFECTIVE MARCH 1, 2003

**HOUSEHOLD - NON-COMMERCIAL**

| | |
|---|---|
| Less than 2.5 cubic yards | $5.25 per load |
| 2.5 - 6 cubic yards | $8.50 per load |
| 6 - 9 cubic yards | $12.75 per load |
| 9 - 12 cubic yards | $16.75 per load |
| Over 12 cubic yards | $32.60 per ton |
| Per Cubic Yard | $7.75 |

**MIXED WASTE**

| | |
|---|---|
| under 6 cubic yards | $8.50 per load |
| 6 - 9 cubic yards | $16.75 per load |
| Over 9 cubic yards | $32.60 per ton |
| Per Cubic Yard | $7.75 |

**PLANT & WOOD WASTE**

| | |
|---|---|
| Up to 6 cubic yards | $4.25 per load |
| 6 - 9 cubic yards | $8.50 per load |
| Over 9 cubic yards | $20.00 per ton |
| Per Cubic Yard | $1.25 |

**CLEAN FILL DEBRIS**

| | |
|---|---|
| Up to 3 cubic yards | $5.25 per load |
| 3 - 6 cubic yards | $8.00 per load |
| 6 - 9 cubic yards | $10.50 per load |
| 9 - 12 cubic yards | $13.00 per load |
| Over 12 cubic yards | $16.00 per ton |
| Per Cubic Yard | $2.75 |

**DIRTY C& D**

| | |
|---|---|
| Per Ton | $31.50 per ton |

**NON FRIABLE ASBESTOS WASTE** (Requires an Asbestos Manifest, charged at Mixed Waste rate)

**FRIABLE ASBESTOS WASTE** (Requires an Asbestos Manifest & special disposal requirements)
All Loads ..... $210 per ton / $35 minimum charge

**CONTAMINATED SOIL & INDUSTRIAL WASTE** ..... $40.00 per ton/ $40.00 minimum charge
(Must provide a TCLP or other approved documentation of lab analysis)

**ANIMAL CARCASS** (Agriculture or Bulk) ..... $40.00 minimum charge
(Single small animal $15 i.e., sheep or smaller)

**MUNICIPAL SLUDGE** (Orem & Timpanogos) ..... $23.50 per ton

**TIRES** (non-commercial customers only) ..... $84 per ton

**SPECIAL HANDLING FEE** $3.25 per ton &/or cubic yard
(Extra large stumps, concrete, items that require special handling; maybe charged for any type of waste in addition to regular fee)

**NON-PROFIT RECYCLING COMPANIES** ..... $23.50 per ton
(i.e., Deseret Industries)

**COMPOST SALES** (We load)

| | | |
|---|---|---|
| screened fines | $10.00 per cubic yard | $30 per pickup load |
| screened wood chips | $ 7.00 per cubic yard | $21 per pickup load |
| unscreened grindings | $ 4.00 per cubic yard | $12 per pickup load |

(*Not co-composted with municipal sewer sludge)

**DOUBLE CHARGE OF ALL UNSECURED LOAD** $4.25 minimum / $50.00 maximum

15 & 20 Tons A Day
By the Load
25 Ton weighed
15 Ton At Gate
10 years more than Doubled
Dave Adams Alpine City Council

WL1

# WELL DRILLER'S REPORT
## State of Utah
## Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

RECEIVED
AUG 2 3 1993
WATER RIGHTS
SALT LAKE

**ll Identification**

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

**Owner** *Note any changes*

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

Contact Person/Engineer:

**Well Location** *Note any changes*

NORTH 1440 feet EAST 200 feet from the S¼ 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 high | PERMEABLE low | UNCONSOLIDATED CLAY | SILT | SAND | GRAVEL | COBBLES | BOULDER | OTHER | CONSOLIDATED ROCK TYPE | COLOR | DESCRIPTIONS AND REMARKS (include comments on *water quality* if known.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10' | | X | | X | | X | | | | | | TAN | |
| 10' | 12' | | X | | | | X | X | | | | | " | |
| 12' | 65' | | X | | | | X | X | | | | | " | |
| 65' | 100' | | X | | | | X | X | | | | | " | |
| 100' | 114' | | | X | X | | | X | | | | | " | |
| 114' | 116' | | | X | X | | | | | | | | " | |
| 116' | 118' | | X | | | | | X | | | | | " | |
| 118' | 140' | X | X | | | | | | | | X | Limestone | Blue | Red and Blue Limestone + clay. |
| 142 | 145 | X | X | | | | | | | | | " | | |
| | | | | | | | | | | | | | | |

**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) FROM | TO | CASING: CASING TYPE AND MATERIAL/GRADE | WALL THICK (in) | NOMINAL DIAM. (in) | DEPTH (feet) FROM | TO | SCREEN ☐ PERFORATIONS ☒ SLOT SIZE OR PERF SIZE (in) | SCREEN DIAM. OR PERF LENGTH (in) | SCREEN TYPE OR NUMBER PERF (per round/interval) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 106' | steel | .280 | 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) FROM | TO | FILTER PACK / GROUT / PACKER / ABANDONMENT MATERIAL: ANNULAR MATERIAL, ABANDONMENT MATERIAL and/or PACKER DESCRIPTION | Quantity of Material Used (if applicable) | GROUT DENSITY (lbs./gal.,# bag mix, gal./sack etc.) |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## Well Development / Pump or Bail Tests

| Date | Method | Yield | Units Check One GPM | CFS | DRAWDOWN (ft) | TIME PUMPED (hrs & min) |
|---|---|---|---|---|---|---|
| 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
(Person, Firm, or Corporation – Print or Type)

Signature Everett H Miller Date 8-17-93
(Licensed Well Driller)

Form 113—5M—12-60

Examined .....
Recorded: B. C. ..... T. B. .....
Ins[illegible] Sheet .....
Copied .....

# REPORT OF WELL DRILLER
## STATE OF UTAH

Application No. 54-10[illegible]
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
Name Mendenhall Estate
Address Lehi, Ut. 84043

**(2) LOCATION OF WELL:**
County Utah Ground Water Basin (leave blank)
~~North~~ 2816 feet, ~~East~~ 684 feet from N ¼ Corner
South West
of Section 35, T. 5 ~~N~~ S, R. 1 ~~E~~ W SLBM USM (strike out words not needed)

**(3) NATURE OF WORK (check):** New Well ☐
Replacement Well ☒ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure: .....

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

**(5) TYPE OF CONSTRUCTION (check):**
Rotary ☐ Dug ☐ Jetted ☐
Cable ☒ Driven ☐ Bored ☐

**(6) CASING SCHEDULE:** Threaded ☐ Welded ☒
6" Diam. from 0 feet to 147 feet Gage 280
" Diam. from ..... feet to ..... feet Gage .....
" Diam. from ..... feet to ..... feet Gage .....
New ☒ Reject ☐ Used ☐

**(7) PERFORATIONS:** Perforated? Yes ☐ No ☒
Type of perforator used .....
Size of perforations ..... inches 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? Yes ☐ No ☒ Size of gravel: .....
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 unusable water? Yes ☐ No ☒
Type of water: ..... Depth of strata .....
Method of sealing strata off: .....

Was surface casing used? Yes ☐ No ☒
Was it cemented in place? Yes ☐ No ☒

**10) WATER LEVELS:**
Static level 75 feet below land surface Date 4-16-88
Artesian pressure ..... feet above land surface Date .....

RECEIVED MAY 06 1988 WATER RIGHTS SALT LAKE

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

**(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
" ..... " ..... " ..... "
" ..... " ..... " ..... "
Bailer 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 ☐

**(13) WELL LOG:** Diameter of well 6 inches
Depth drilled 148 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 materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

| DEPTH From | DEPTH To | Clay | Silt | Sand | Gravel | Cobbles | Boulders | Hardpan | Conglomerate | Bedrock | Other | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 25 | X | X | X | X | | | | | | | TAN |
| 25 | 60 | X | X | X | X | | | | | | | " |
| 60 | 78 | X | X | X | X | | | | | | | " |
| 78 | 118 | X | | X | | | | | | | | water |
| 118 | 122 | X | | | | | | X | | | | TAN |
| 122 | 138 | X | | X | X | | | | | | | TAN |
| 138 | 147 | | | | X | | | X | | | | water |

Work started April 11, 1988 Completed April 16, 1988

**(14) PUMP:**
Manufacturer's Name .....
Type: ..... H. P. .....
Depth to pump or bowles ..... 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 Harold Fenn Well Drilling (Person, firm, or corporation) (Type or print)
Address Box 448 Lehi Utah
(Signed) Russell Huntsman (Well Driller)
License No. 452 Date 4-22-, 1988

Form 113—5M—12-60

Examined .....
R[redacted]ded: B. C. ..... T. B. .....
1 [redacted]tion Sheet .....
Copied .....

# REPORT OF WELL DRILLER
## STATE OF UTAH

Application No. A-61731
Claim No. .....
Coordinate No. 54-603

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:**
Name H. Paul Mendenhall
Address 265 South 100 West Lehi UT 84043

**(2) LOCATION OF WELL:**
County Utah Ground Water Basin ..... (leave blank)
[redacted] 1300 feet, East 50 feet from N 4 Corner
South [redacted]
of Section 35, T. 5 [redacted] S, R. 1 [redacted] SLBM W [redacted] (strike out words not needed)

**(3) NATURE OF WORK (check):** New Well ☑
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure: .....

**(4) NATURE OF USE (check):**
Domestic ☑ Industrial ☐ Municipal ☐ Stockwater ☐
[redacted]ation ☑ Mining ☐ Other ☐ Test Well ☐

**(5) TYPE OF CONSTRUCTION (check):**
Rotary ☐ Dug ☐ Jetted ☐
Cable ☑ Driven ☐ Bored ☐

**(6) CASING SCHEDULE:** Threaded ☐ Welded ☑
6 " Diam. from 0 feet to 151 feet Gage .280
..... " Diam. from ..... feet to ..... feet Gage .....
..... " Diam. from ..... feet to ..... feet Gage .....
New ☑ Reject ☐ Used ☐

**(7) PERFORATIONS:** Perforated? Yes ☐ No ☑
Type of perforator used .....
Size of perforations ..... inches 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? Yes ☐ No ☑ Size of gravel: .....
Gravel placed from ..... feet to ..... feet
Was a surface seal provided? Yes ☑ No ☐
To what depth? 25 feet
Material used in seal: Bentonite
Did any strata contain unusable water? Yes ☐ No ☑
Type of water: ..... Depth of strata .....
Method of sealing strata off: .....

Was surface casing used? Yes ☐ No ☑
Was it cemented in place? Yes ☐ No ☐

**(10) WATER LEVELS:**
Static level 8.8 feet below land surface Date Nov 28, 1988
Artesian pressure ..... feet above land surface Date .....

RECEIVED: DEC 1 - 1988 WATER RIGHTS SALT LAKE

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

**(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
" ..... " ..... " ..... "
" ..... " ..... " ..... "
Bailer test 14 gal./min. with 12 feet drawdown after 2 hours
Artesian flow ..... g.p.m. Date .....
Temperature of water ..... Was a chemical analysis made? No ☑ Yes ☐

**(13) WELL LOG:** Diameter of well 6 inches
Depth drilled 163 feet. Depth of completed well 151 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 any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

| DEPTH From | DEPTH To | Clay | Silt | Sand | Gravel | Cobbles | Boulders | Hardpan | Conglomerate | Bedrock | Other | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | | | | | | | | | | X | Soil |
| 2 | 24 | X | | X | | | | | | | | Tan |
| 24 | 43 | | | X | X | | | | | | | Tan |
| 43 | 59 | X | | | | | | | | | | |
| 59 | 104 | X | | X | X | | | | X | | | |
| 104 | 136 | X | | X | X | | | | | | | Water |
| 136 | 152 | X | | | X | | | | [redacted] | | | Water |
| 152 | 163 | X | | | X | | | | X | | | Water |

Work started Nov. 11, 19 88 Completed Nov. 28, 19 88

**(14) PUMP:**
Manufacturer's Name .....
Type: ..... H. P. .....
Depth to pump or bowles ..... 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 Camer Drilling Co. (Person, firm, or corporation) (Type or print)
Address 260 So. 1 West Lehi, Utah 84043
(Signed) [signature] (Well Driller)
License No. 5 Date Dec 14, 19 88

USE OTHER SIDE FOR ADDITIONAL REMARKS

Form 113—5M—12-60

Examined 9-25-70 V.F.O.
Recorded: B. C. 9-25-70 V.F.O. T. B. V.F.O.
Location Sheet 10-1-70 E.M.
Copied 10-1-70 E.M.

LAPSED
JAN-1977

# REPORT OF WELL DRILLER
## STATE OF UTAH

Application No. 40140 (54-1307)
Claim No.
Coordinate No. (C-6-2) 3 CCC

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:**
Name RALPH W DAVIS
Address LEHI UTAH

**(2) LOCATION OF WELL:**
County UTAH Ground Water Basin (leave blank)
North 300 feet, East 300 feet from SW Corner
of Section 3, T. 6 S, R. 2 W SLBM (strike out words not needed)

**(3) NATURE OF WORK (check):** New Well ☑
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure:

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

**(5) TYPE OF CONSTRUCTION (check):**
Rotary ☐ Dug ☐ Jetted ☐
Cable ☑ Driven ☐ Bored ☐

**(6) CASING SCHEDULE:** Threaded ☐ Welded ☑
8" Diam. from 0 feet to 291 feet Gage .280
" Diam. from feet to feet Gage
" Diam. from feet to feet Gage
New ☑ Reject ☐ Used ☐

**(7) PERFORATIONS:** Perforated? Yes ☑ No ☐
Type of perforator used MILLS KNIFE
Size of perforations 1/4 inches by 2 inches
100 perforations from 195 feet to 220 feet
100 perforations from 243 feet to 270 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? Yes ☐ No ☐ Size of gravel:
Gravel placed from feet to feet
Was a surface seal provided? Yes ☐ No ☐
To what depth? feet
Material used in seal:
Did any strata contain unusable water? Yes ☐ No ☐
Type of water: Depth of strata
Method of sealing strata off:

Was surface casing used? Yes ☐ No ☐
Was it cemented in place? Yes ☐ No ☐

**(10) WATER LEVELS:**
Static level 164 feet below land surface Date 9/10/70
Artesian pressure feet above land surface Date

LOG RECEIVED:
9-23-70
V.F.O.

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

**(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
" " " " "
" " " " "
Bailer test 20 gal./min. with NO feet drawdown after 1/2 hours
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? No ☐ Yes ☐

**(13) WELL LOG:** Diameter of well 8 inches
Depth drilled 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 any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

| DEPTH From | DEPTH To | Clay | Silt | Sand | Gravel | Cobbles | Boulders | Hardpan | Conglomerate | Bedrock | Other | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 38 | X | | | | | | | | | | TAN |
| 38 | 95 | X | | | X | | | X | | | | TAN |
| 95 | 113 | X | | | | | | | | | | TAN STIFF |
| 113 | 138 | X | | | X | | | | | | | CEMENTED |
| 138 | 192 | X | | | | | | | | | | TAN |
| 192 | 212 | X | | | X | | | | | | | TAN |
| 212 | 220 | | | X | X | | | | | | | |
| 220 | 243 | X | | | | | | | | | | TAN |
| 243 | 270 | X | | | X | | X | | | | | CEMENTED |
| 270 | 286 | X | | | | | | | | | | TAN |
| 286 | 293 | | | | X | | X | | | | | CEMENTED |
| 293 | 300 | X | | | | | | | | | | TAN |

Work started AUG 13, 1970 Completed SEPT 10, 1970

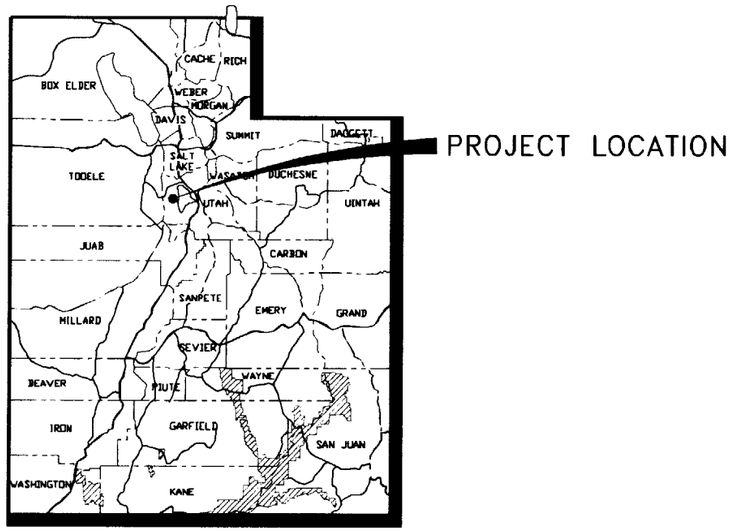
**(14) PUMP:**
Manufacturer's Name
Type: H. P.
Depth to pump or bowles feet

**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 ELDON COMER (Person, firm, or corporation) (Type or print)
Address LEHI UTAH
(Signed) Eldon Comer (Well Driller)
License No. 5 Date SEPT 22, 1970

USE OTHER SIDE FOR ADDITIONAL REMARKS

## PECK ROCK CLASS VI LANDFILL

# PERMIT DRAWINGS

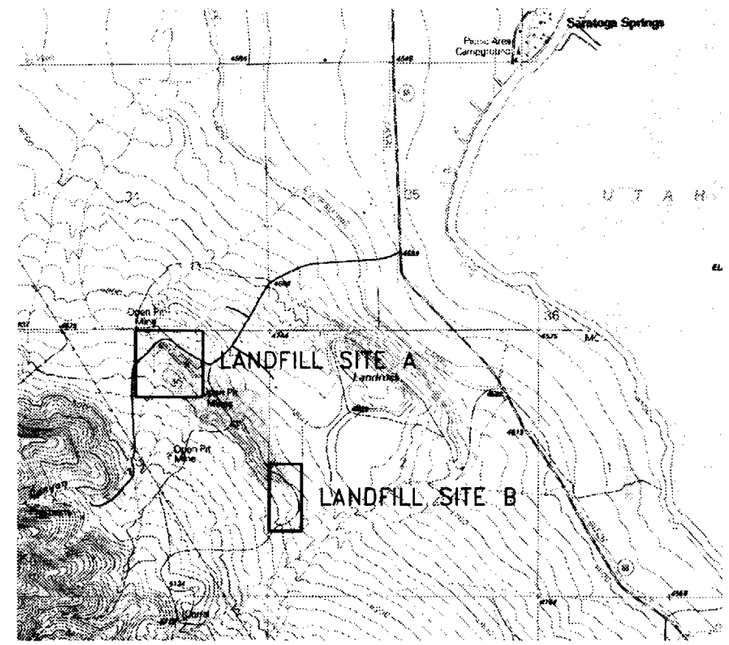



LOCATION MAP

### SHEET INDEX


1 COVER SHEET
2 SITE VICINITY MAP WITH WELL LOCATIONS
3 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**

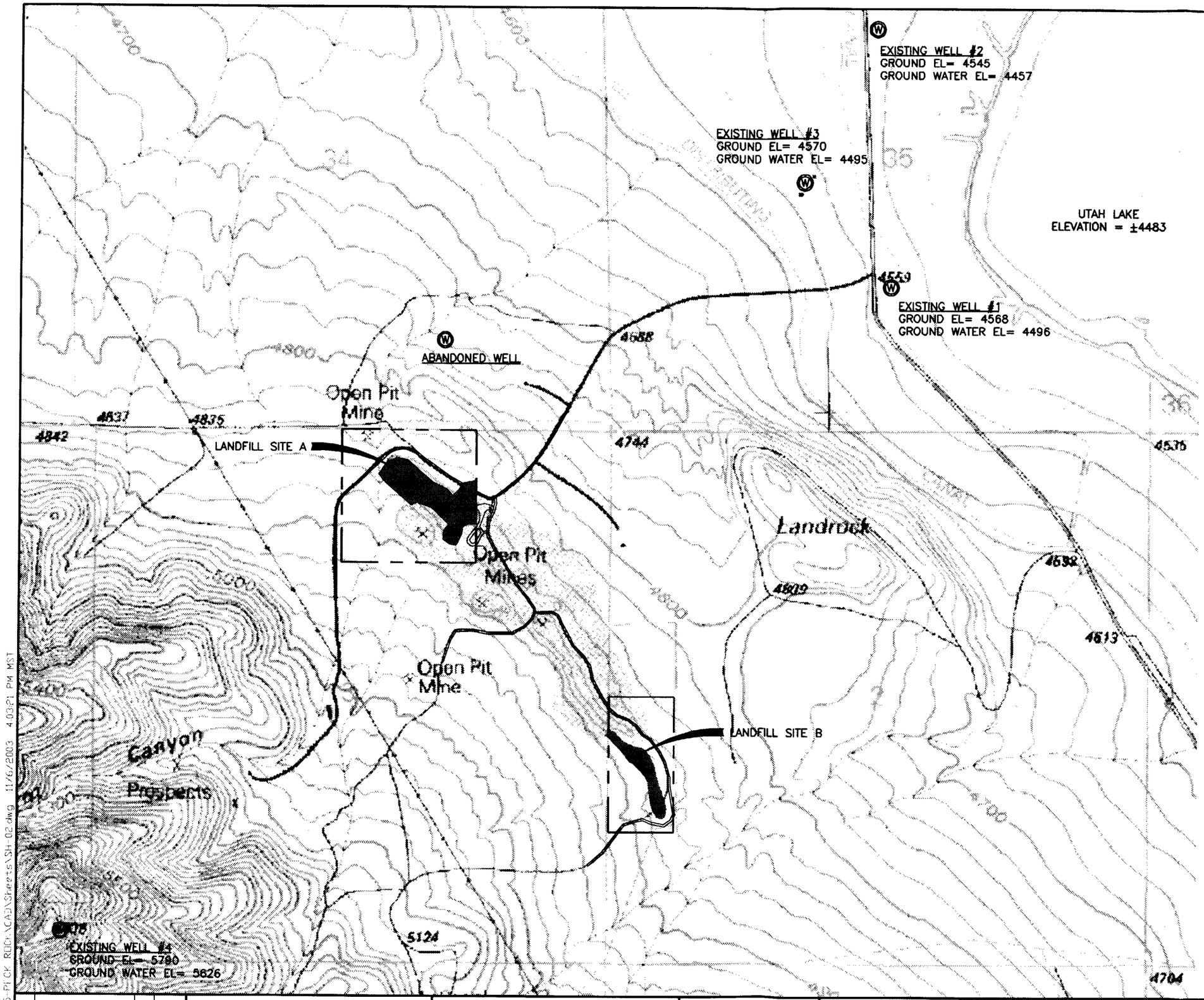




CIVIL SCIENCE
ENGINEERS – SURVEYORS – PLANNERS – SCIENTISTS
768 East Utah Valley Drive
American Fork, UT 84003
(801) 756-8888



Q:\2003\03135-PECK ROCK\CAD\Sheets\SH-01 COVER.dwg 1/14/2004 8:32:48 AM MST




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.

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|

DRAWN TT DATE
CHECKED BAK PROJECT ENGINEER DATE
APPROVED BAK PROJECT MANAGER DATE

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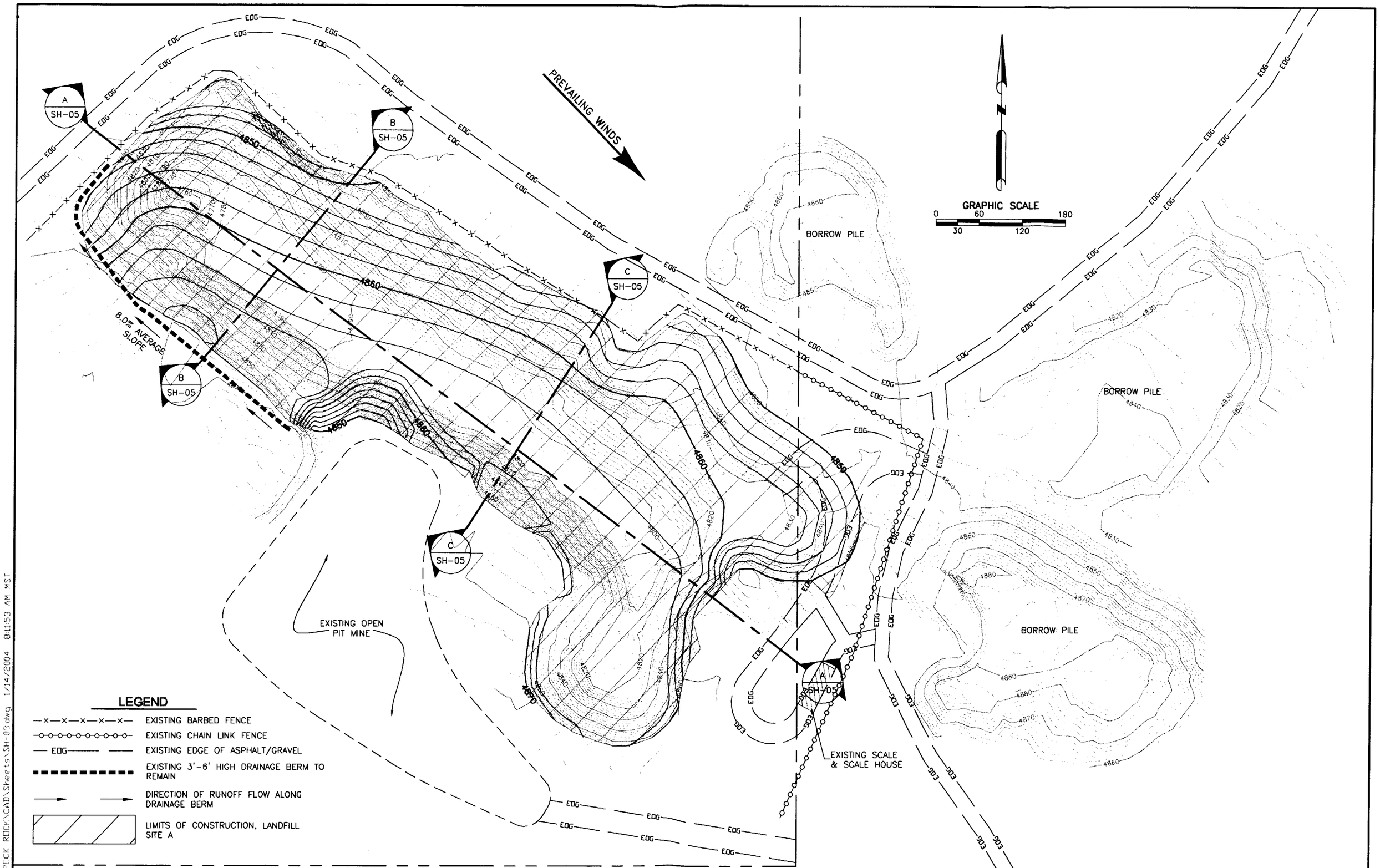
# PECK ROCK CLASS VI LANDFILL

## SITE VICINITY MAP WITH WELL LOCATIONS

PROJECT NO.: 03135.00
SHEET NO. 2 OF 7
FILE NAME: SH-02
SCALE: AS SHOWN

Q:\2003\03135-PECK ROCK\CAD\Sheets\SH-02.dwg 11/6/2003 4:03:21 PM MST




| NO. | REVISIONS | BY | DATE |
|---|---|---|---|
| | | | |

DRAWN TT — DATE

CHECKED BAK — PROJECT ENGINEER — DATE

APPROVED BAK — PROJECT MANAGER — DATE

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# PECK ROCK CLASS VI LANDFILL

## SITE MAP – LANDFILL SITE A

PROJECT NO.: 03135.00

SHEET NO. 3 OF 7

FILE NAME: SH-03

SCALE: AS SHOWN

Q:\2002\03135-PECK ROCK\CAD\Sheets\SH-03.dwg 1/14/2004 8:11:53 AM MST

PREVAILING WINDS

GRAPHIC SCALE
0 60 180
30 120

B
SH-06

A
SH-06

4870
4880
4850
4860
4840
4820
4830

8.0% AVERAGE SLOPE

1.5% AVERAGE SLOPE

EDG

## LEGEND

| | |
|---|---|
| —x—x—x—x—x— | EXISTING BARBED FENCE |
| —o—o—o—o—o—o—o— | EXISTING CHAIN LINK FENCE |
| — EDG — — | 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 |
| ▨ | LIMITS OF CONSTRUCTION, LANDFILL SITE A |

| NO | REVISIONS | BY | DATE |
|---|---|---|---|

DRAWN TT DATE
CHECKED BAK PROJECT ENGINEER DATE
APPROVED BAK PROJECT MANAGER DATE

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# PECK ROCK CLASS VI LANDFILL

## SITE MAP - LANDFILL SITE B

PROJECT NO.: 03135.00
SHEET NO. 4 OF 7
FILE NAME: SH-04
SCALE: AS SHOWN

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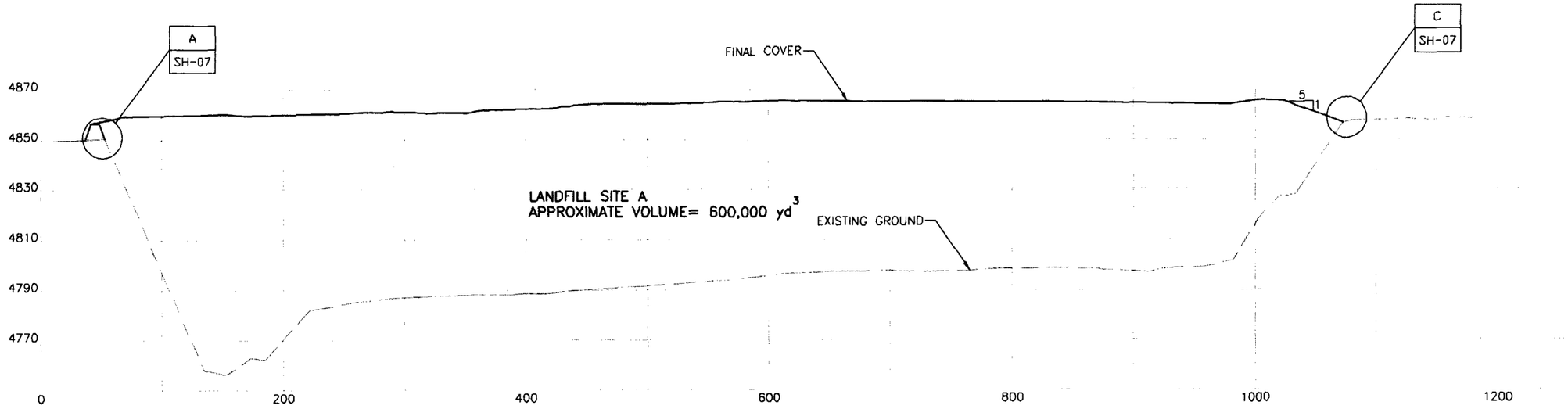
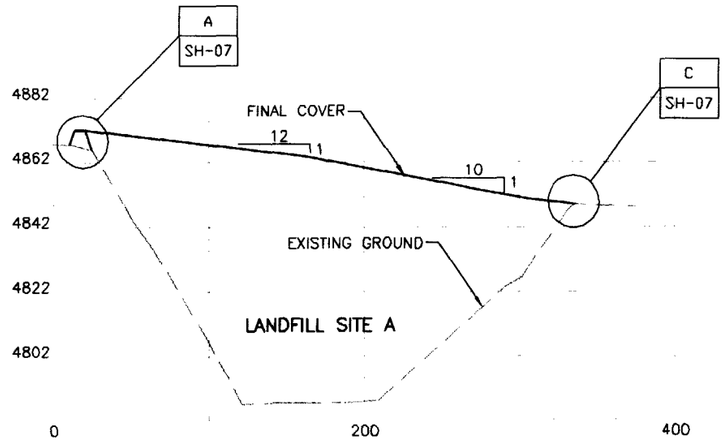
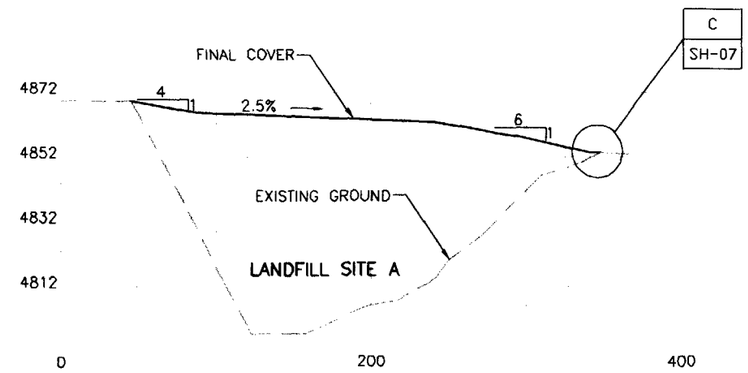



A / SH-03 **SECTION**
NTS




B / SH-03 **SECTION**
NTS




C / SH-03 **SECTION**
NTS

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|
| | | | |

DRAWN TT — DATE
CHECKED BAK — PROJECT ENGINEER — DATE
APPROVED BAK — 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: SH-05
SCALE: AS SHOWN

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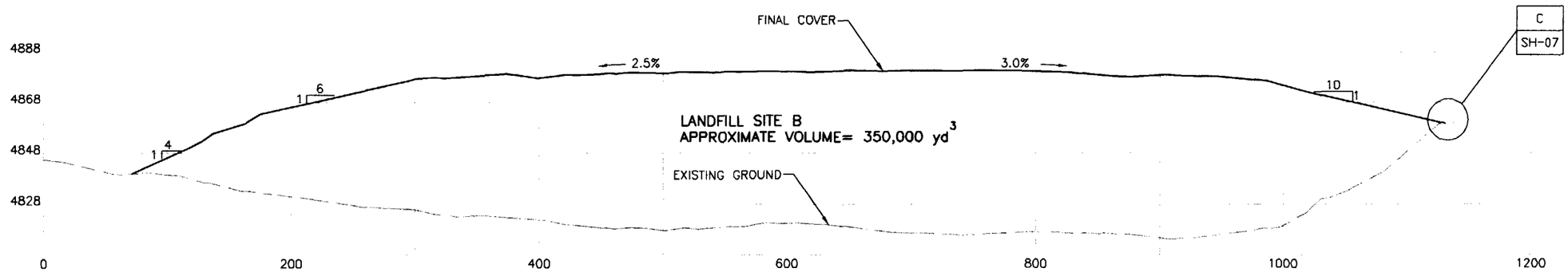
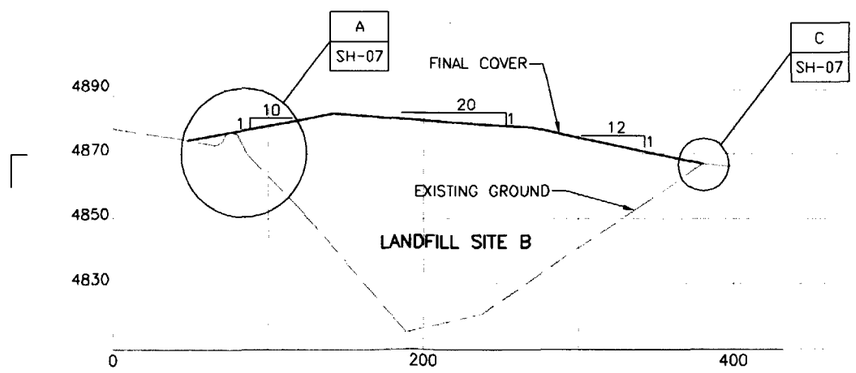



A
SH-04

**SECTION**
NTS




B
SH-04

**SECTION**
NTS

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|

DRAWN TT DATE
CHECKED BAK PROJECT ENGINEER DATE
APPROVED BAK PROJECT MANAGER DATE

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**PECK ROCK CLASS VI LANDFILL**

CROSS SECTIONS – LANDFILL SITE B

PROJECT NO.: 03135.00
SHEET NO. 6 OF 7
FILE NAME: SH-06 SCALE: AS SHOWN

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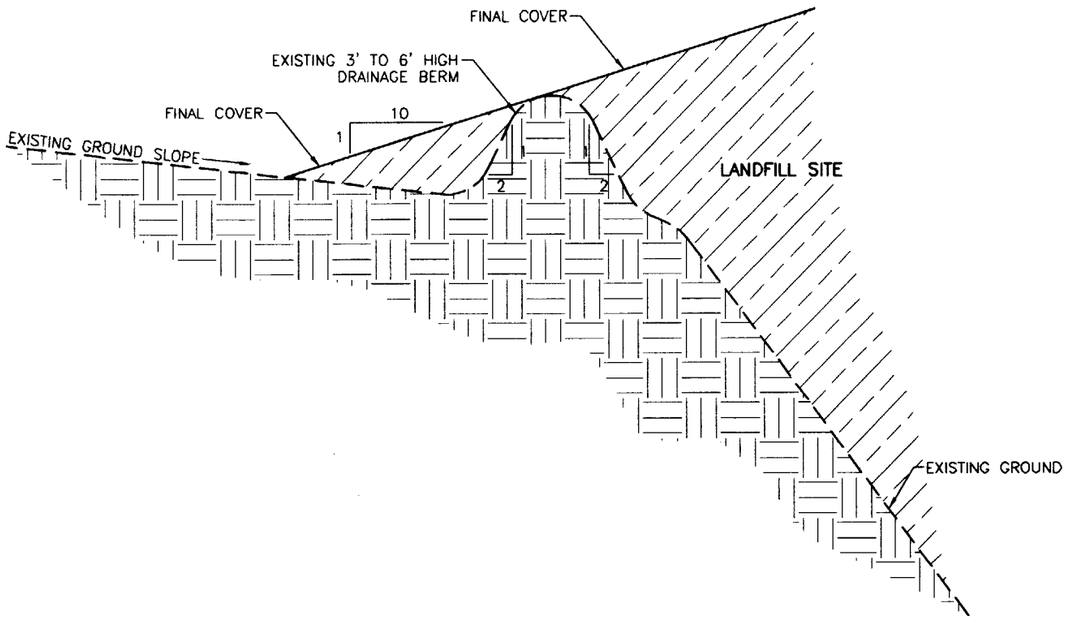
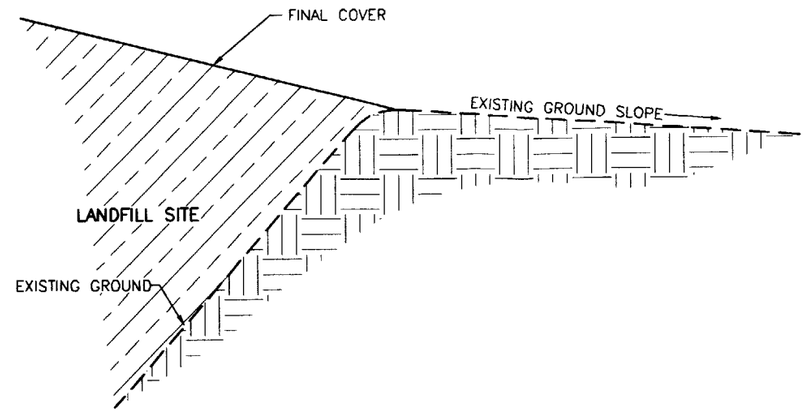
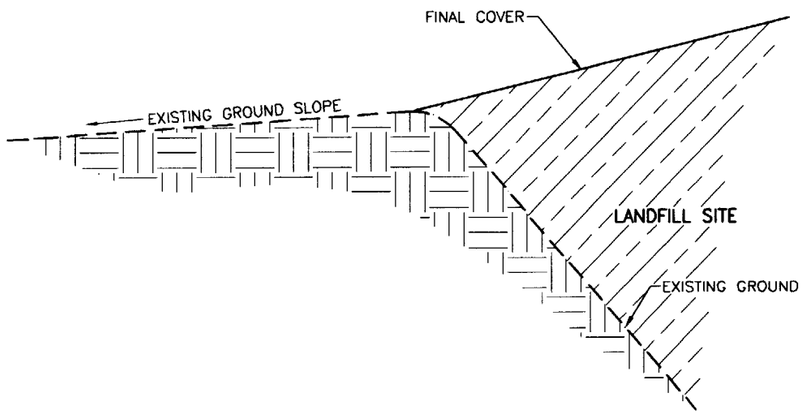



**A** STORM WATER DRAINAGE DITCH DETAIL
N.T.S.




**C** COVER TIE-IN TO EXISTING GROUND
N.T.S.




**B** COVER TIE-IN TO EXISTING GROUND
N.T.S.

| NO. | REVISIONS | BY | DATE |
|---|---|---|---|

DRAWN TT — DATE
CHECKED BAK — PROJECT ENGINEER — DATE
APPROVED BAK — PROJECT MANAGER — DATE

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# PECK ROCK CLASS VI LANDFILL

## MISCELLANEOUS DETAILS

PROJECT NO.: 03135.00
SHEET NO. 7 OF 7
FILE NAME: SH-07
SCALE: AS SHOWN

G:\2003\03135-PECK ROCK\CAD\Sheets\SH-07.dwg 11/6/2003 4:19:57 PM MST

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Municipal Engineering
Transportation Engineering
Development Engineering
NEPA Environmental Services

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~~ 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-inchs 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.

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Facsimile: 801-756-8881
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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.

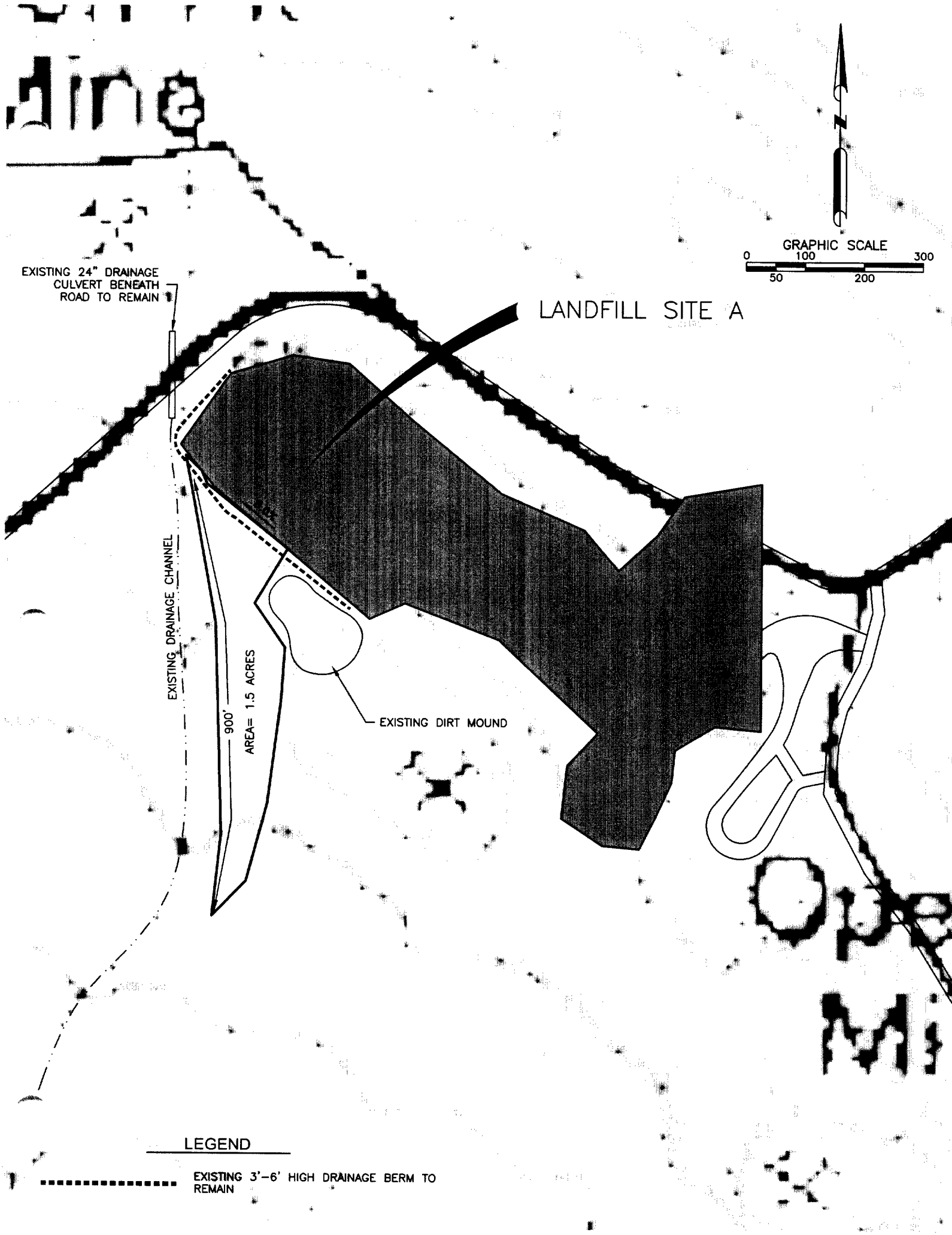
In Conclusion, the existing and proposed berms along the south side of landfill site A and along the south and west sides of landfill site B will be adequate to divert the 25-year storm flows away from each of the proposed Class VI Landfill sites.

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

Sincerely,

Brad A. Kenison, P.E.

# APPENDIX A


GRAPHIC SCALE
0
100
300
50
200
EXISTING 24" DRAINAGE CULVERT BENEATH ROAD TO REMAIN
LANDFILL SITE A
EXISTING DRAINAGE CHANNEL
900'
AREA= 1.5 ACRES
EXISTING DIRT MOUND
LEGEND
EXISTING 3'-6' HIGH DRAINAGE BERM TO REMAIN

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CLIENT Peck Rock Products JOB NO. 03135.00
PROJECT Proposed Landfill Site A
MADE BY BAK DATE 1-13-04
CHECKED BY _____ DATE _____ SHEET ____ OF ____

# 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 = ± 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)

$I_{10} = 0.31$ inches/Hour

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

Use min. Flow = 0.1 cfs

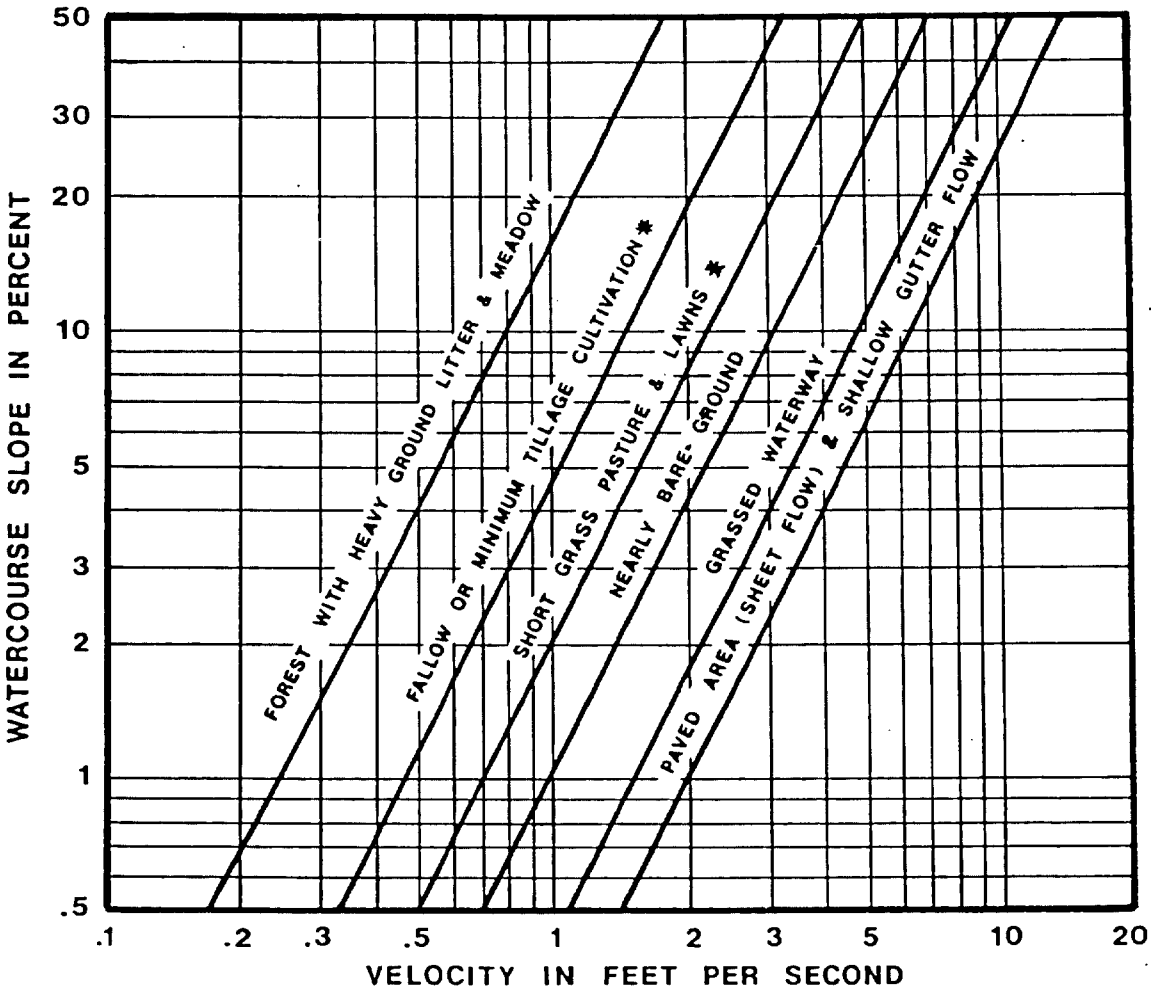



FIGURE 3-2. ESTIMATE OF AVERAGE FLOW VELOCITY FOR USE WITH THE RATIONAL FORMULA.

* 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
Latitude: 40° 22'

Elevation: 4497
Longitude: 111° 54'

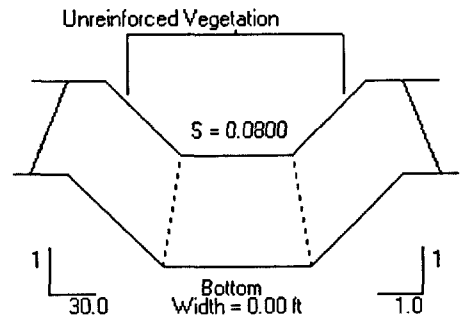
DURATION

| RETURN PERIOD (years) | 5 Min | 10 Min | 15 Min | 20 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 | .38 | .47 | .59 | .72 | .84 | 1.14 | 1.41 | 1.69 |
| 25 | .20 | .31 | .39 | .44 | .55 | .69 | .85 | 1.01 | 1.39 | 1.73 | 2.09 |
| 50 | .23 | .36 | .45 | .51 | .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 Landfill 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) |
|---|---|---|---|---|---|
| 0.1 | 12.0 | 0.17 | 0.57 | 0.09 | 0.19 |




Not to Scale

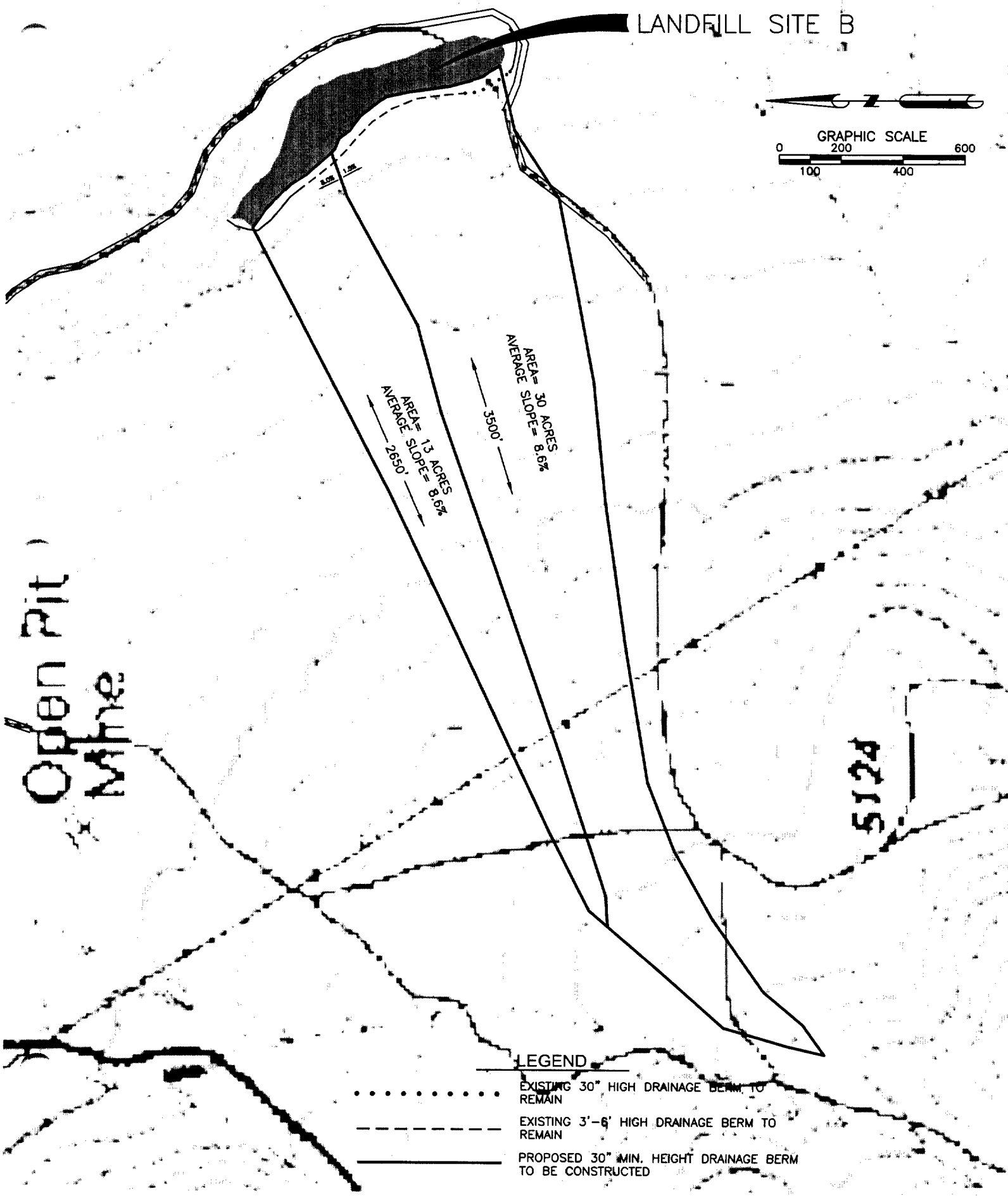
## BEND RESULTS

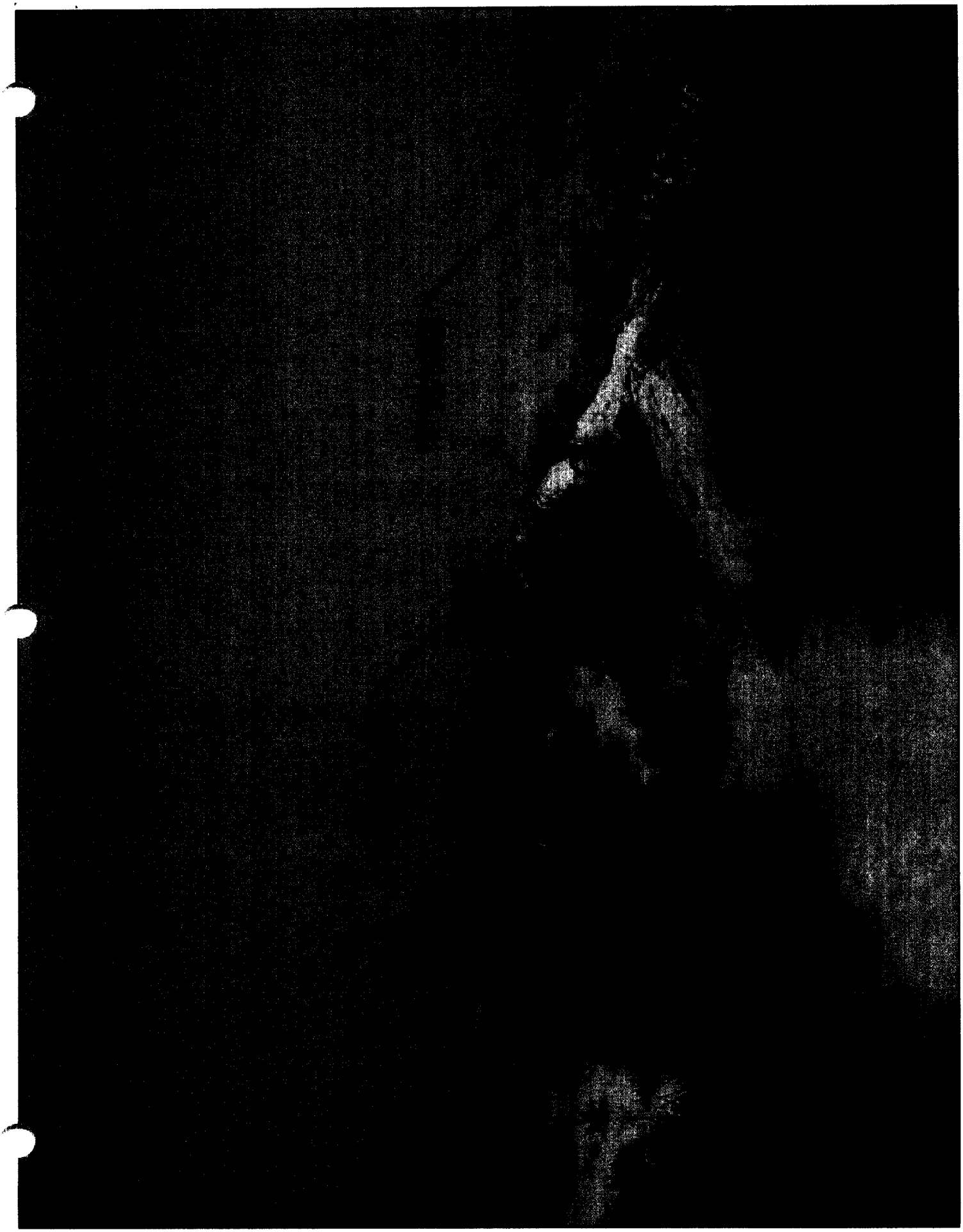
| Bend Radius (ft) | Length Protection (ft) | Super Elevation Depth (ft) |
|---|---|---|
| 1000.0 | 0.1 | 0.2 |

## LINER RESULTS

| Reach | Material Type / Staple Pattern | Phase / Class | Veg. Type / Veg. Density | Soil Type | Manning's 'n' | Permissible Shear Stress (psf) | Calculated Shear Stress (psf) | Safety Factor | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| Straight | Unreinforced | | Mix | | 0.500 | 3.33 | 0.96 | 3.47 | STABLE |
| | | D | <50% | Clay Loam | | 0.050 | 0.001 | 86.38 | STABLE |
| Bend | Unreinforced | | Mix | | 0.500 | 3.33 | 0.96 | 3.47 | STABLE |
| | | D | <50% | Clay Loam | | 0.050 | 0.001 | 86.38 | STABLE |

# APPENDIX B


LANDFILL SITE B
GRAPHIC SCALE
0
200
600
100
400
AREA= 30 ACRES
AVERAGE SLOPE= 8.6%
3500'
AREA= 13 ACRES
AVERAGE SLOPE= 8.6%
2650'
Open Pit
Mine
5124
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



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CLIENT Peck Rock Products JOB NO.
PROJECT Proposed Landfill Site B
MADE BY BAK DATE 1-13-04 (Northern Drainage)
CHECKED BY DATE SHEET OF

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

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

Use Higher $T_c$ Value of 20 min.

I (Intensity) - from Utah Lake Lehi Table

$I_{20} = 0.44$ in/hr

Flow $= Q = CIA = (0.20)(0.44)(13) = 1.14$

Use min. Flow of 1.2 cfs

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CLIENT PECK ROCK PRODUCTS JOB NO. 03135.00
PROJECT PROPOSED LANDFILL SITE B
MADE BY BAK DATE 1-13-04 (Southern Drainage)
CHECKED BY _____ DATE _____ SHEET ____ OF ____

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

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

USE HIGHER INTENSITY of 30 min. STORM

INTENSITY (I) - from Utah LAKE LEHI TABLE

$I_{30} = 0.55$ in/hr

FLOW = $Q = CIA = (0.20)(0.55)(30) = 3.3$ cfs

USE min. FLOW OF 3.30 cfs

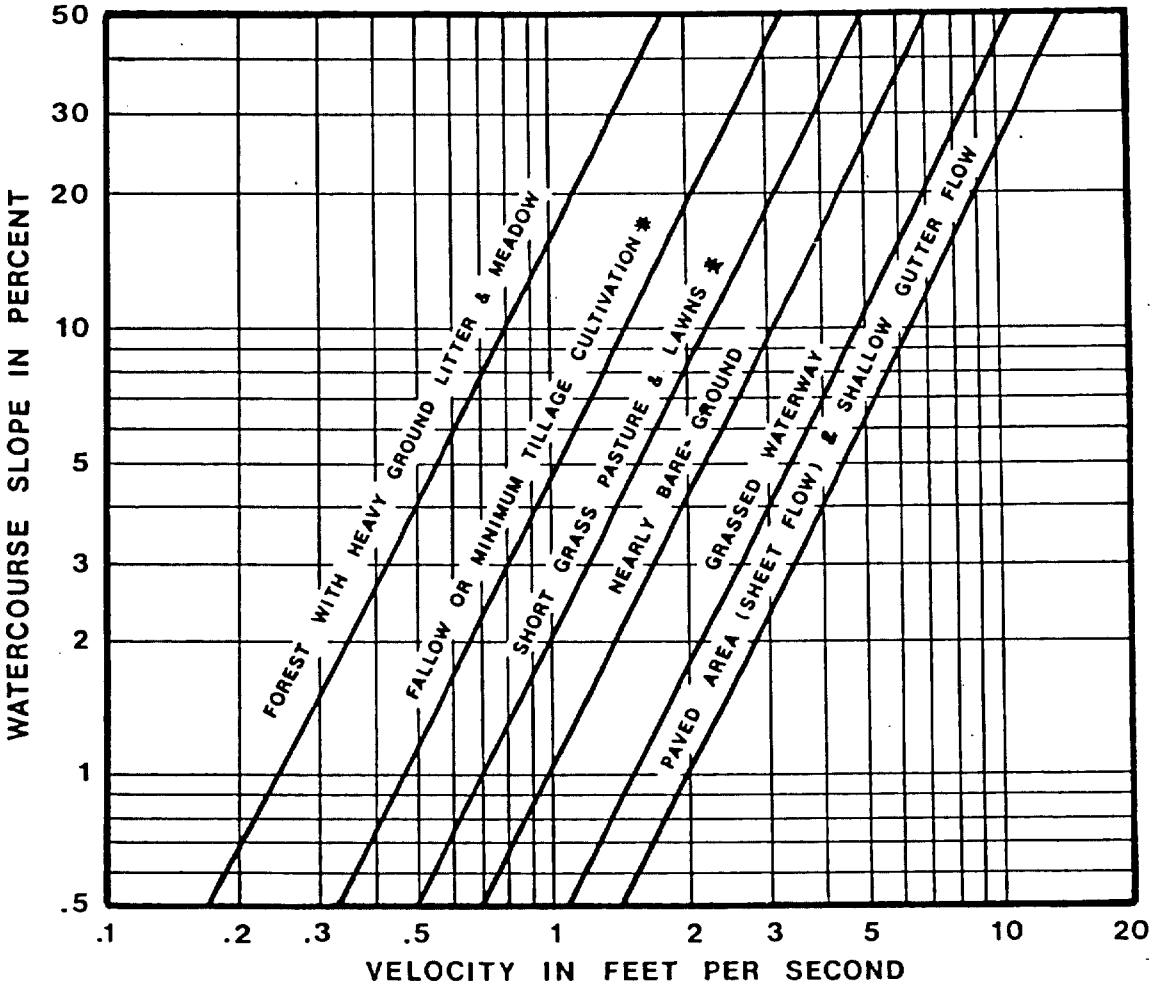



FIGURE 3-2. ESTIMATE OF AVERAGE FLOW VELOCITY FOR USE WITH THE RATIONAL FORMULA.

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

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

# 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'

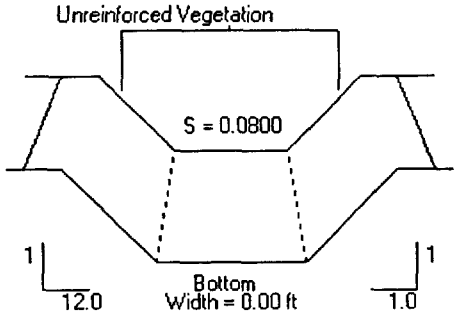
DURATION

| RETURN PERIOD (years) | 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 | 09:59 AM | COMPUTED BY: bak |
| 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) |
|---|---|---|---|---|---|
| 1.2 | 12.0 | 0.40 | 3.00 | 0.33 | 0.68 |




Not to Scale

## BEND RESULTS

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

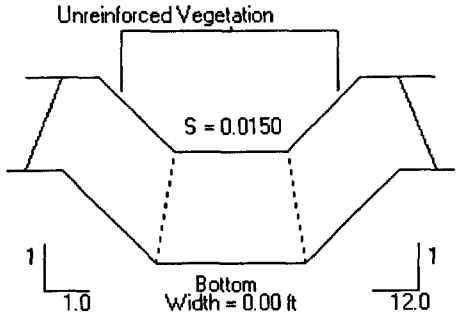
## LINER RESULTS

| Reach | Material Type / Staple Pattern | Phase / Class | Veg. Type / Veg. Density | Soil Type | Manning's 'n' | Permissible Shear Stress (psf) | Calculated Shear Stress (psf) | Safety Factor | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| Straight | Unreinforced | | Mix | | 0.500 | 3.33 | 3.39 | 0.98 | UNSTABLE |
| | | D | <50% | Clay Loam | | 0.050 | 0.002 | 24.43 | STABLE |
| Bend | Unreinforced | | Mix | | 0.500 | 3.33 | 3.39 | 0.98 | UNSTABLE |
| | | D | <50% | Clay Loam | | 0.050 | 0.002 | 24.43 | STABLE |

| | | |
|---|---|---|
| North American Green - Erosion Control Materials Design Software Ver.4.11 - Channel | 1/14/200 10:00 AM | 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 |




Not to Scale

## BEND RESULTS

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

## LINER RESULTS

| Reach | Material Type / Staple Pattern | Phase / Class | Veg. Type / Veg. Density | Soil Type | Manning's 'n' | Permissible Shear Stress (psf) | Calculated Shear Stress (psf) | Safety Factor | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| Straight | Unreinforced | | Mix | | 0.500 | 3.33 | 1.27 | 2.62 | STABLE |
| | | D | <50% | Clay Loam | | 0.050 | 0.001 | 65.14 | STABLE |
| Bend | Unreinforced | | Mix | | 0.500 | 3.33 | 1.27 | 2.62 | STABLE |
| | | D | <50% | Clay Loam | | 0.050 | 0.001 | 65.14 | STABLE |