



# Memorandum

**Date:** March 25, 2021

**To:** SOUTHERN NEVADA DISTRICT BOARD OF HEALTH

**From:** Robert Fyda, PE, REHS, *Environmental Health Engineer/Supervisor* RF  
Herbert Luis Sequera, REHS, *Environmental Health Manager* HS  
Chris Saxton, MPH-EH, REHS, *Environmental Health Director* CS  
Fermin Leguen, M.D., MPH, *Acting Chief Health Officer* FL

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**Subject:** Variance Request for an Application to Construct a Septic System located at 4731 Knotty Pine Way, Mount Charleston, Nevada with the following provisions: 1) allow installation of a septic system on an undersized lot; 2) allow a reduced property line setback; and 3) allow a reduced building setback without a Cone of Influence letter submitted by a State of Nevada registered professional engineer.

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## I. BACKGROUND:

Hector Miguel, Owner ("Petitioner"), is requesting a variance to permit and install an individual sewage disposal system (ISDS) on an undersized lot ("Subject Property") served by municipal water, located at Assessor's Parcel Number (APN) 129-36-111-016, also known as 4731 Knotty Pine Way, Mt. Charleston, NV 89124.

Petitioner requests a variance from Section 5.1 of the *Southern Nevada District Board of Health Regulations Governing Individual Sewage Disposal Systems and Liquid Waste Management* ("SNHD ISDS Regulations"), which states that "no septic tank or soil absorption system shall be located within ten feet (10') of any property line." Petitioner proposes reducing this setback to two feet (2') for the leach field and one foot (1') for the septic tank.

Petitioner further requests a variance from Section 5.2 of the SNHD ISDS Regulations, which states that "the horizontal separation from a shallow absorption system to the foundation of a building or structure shall be at least eight feet (8'), and twenty feet (20') from a deep absorption system, unless a Cone of Influence Letter is submitted by State of Nevada registered professional engineer." Petitioner proposes reducing the horizontal separation between the septic tank and building to six feet (6'). Petitioner proposes reducing the horizontal separation between the leach

field and building to four feet (4') and between the leach field and covered porch to less than one foot (1').

Petitioner further requests a variance from Section 11.20.2 of the SNHD ISDS Regulations, which requires a minimum lot size of 0.25 acres for the installation of an ISDS on a lot served by municipal water. The Subject Property has an area of approximately 0.07 acres.

Petitioner states the following with regards to these requirements:

1. There must be circumstances or conditions which are unique to the petitioner, and do not generally affect other persons subject to the regulation:

*"The required setbacks create a hardship due to the non-conforming lot size. Therefore, the ability to use the property for a single family residence is substantially impacted."*

2. There must be circumstances or conditions which make compliance with the regulation unduly burdensome and cause a hardship to and abridge a substantial property right of the applicant, and the variance is necessary to render substantial justice to and preserve the property rights of the applicant. Please indicate in what manner compliance with the regulation would be burdensome or cause a hardship on your business or how the free use of your property may be affected (if economic factors are an issue, please include estimates regarding the costs that would be incurred by compliance):

*"The lot would be rendered unusable by the owner without the variance."*

3. Granting the variance will not be detrimental or pose a danger to the public health and safety. Please provide evidence that the variance request, if approved, will not adversely affect the safe and sanitary operation of the applicant(s) pool, spa, or food establishment:

*"The septic system will be engineered to all other development standards required by the SNHD; except for the deviations being requested."*

## **II. RECOMMENDATION:**

The Subject Property is depicted in Attachment D as Lot 16 of Block 5 of the recorded subdivision known as Cathedral Rock View, which was approved in 1956. The existing subdivision was created prior to the adoption of the current SNHD ISDS Regulations in 2006 and no recorded changes to the Subject Property have been recorded. There is one existing well located downgradient and within six hundred feet (600') of the proposed ISDS. The Subject Property is also located in an area with a high density of existing ISDS; there are 189 lots with an active, traceable ISDS permit within one square mile of the property boundaries (see attached ISDS Density Map).

The Subject Property has an area of approximately 0.07 acres, which is smaller than the minimum lot size of 0.25 acres required by the SNHD ISDS Regulations. Lot size variances have been approved for other properties on Mount Charleston, some of which were as small as 0.06 acres.

The proposed septic tank will be one foot (1') from the closest property line and the proposed leach field will be two feet (2') from the closest property line, where ten feet (10') minimum separation is required by the SNHD ISDS Regulations. Reduced property line setbacks have been approved for other undersized lots in Mount Charleston, but not less than five feet (5').

Under the SNHD ISDS Regulations, the side walls of absorption trenches are considered the primary infiltrative surface for design purposes (see Attachment F - Absorption Trench Detail). This contrasts with the design of absorption beds, for which the bottom of the bed is considered the primary infiltrative surface. Because of the way absorption trenches are designed, the extent of lateral wastewater movement from the trench is directly proportional to the trench depth, which is why the required separation between two trenches is equal to the combined depth of the two trenches (or for trenches of equal depth: [Separation Distance = Trench Depth x 2]). Therefore, if a seven foot (7') deep absorption trench is less than five feet (5') from the neighboring property line, the soil treatment zone will extend past the property line to the neighboring property.

The proposed septic tank will be about six feet (6') from the proposed residence, where eight feet (8') minimum separation is required by the SNHD ISDS Regulations. The proposed leach field will be four feet (4') from the proposed residence and one foot (1') from the proposed covered porch, where twenty feet (20') minimum separation is required by the SNHD ISDS Regulations. Reduced building setbacks have been approved for other lots on Mount Charleston, but not for less than one foot (1'), as proposed by Petitioner. Additionally, the Cone of Influence letter is an existing mechanism included within the SNHD ISDS Regulations to reduce the separation distance between the building and ISDS components.

Staff is of the opinion that granting the variance would endanger public health and safety. Furthermore, Petitioner has not adequately explained why reducing the property line setback to five feet (5') is unacceptable and constitutes a substantial hardship in this case, when it has been adequate for other, smaller lots. Petitioner correctly states in his Justification Letter (see Attachment C) that "most of the properties within this subdivision are nonconforming and have appeared in front of this Board for similar reasons", but those properties were not granted such substantial variances from the SNHD ISDS Regulations. Staff is of the opinion that granting this variance would support the creation of a precedent in which variances are granted to avoid or skirt regulations rather than necessary tools used to protect the applicant's property right.

Staff recommends DENIAL of the variance. If the Board of Health approves the variance, staff recommends approval with the following conditions outlined in Section III.

### III. CONDITIONS:

1. Petitioner will obtain written approval for the reduced property line separation from the owner(s) of the property located at APN 129-36-111-017, also known as 4723 Knotty Pine Way, Mt. Charleston, NV 89124 before construction is completed.
2. Petitioner will provide verification from a Nevada licensed professional land surveyor (PLS) that the septic system is installed within the property boundaries prior to final approval of the installation.

3. Petitioner will submit a Cone of Influence letter signed by a State of Nevada registered professional engineer stating the separation distance, absorption trench depth, and that the stress influence of the building foundation will not adversely affect the leach field and septic tank and the stress influence of the leach field and septic tank will not adversely affect the building foundation.
4. Petitioner and their successor(s) in interest shall abide by all local governmental regulations requiring connection to community sewage systems. Use of the ISDS shall be discontinued and the structure it serves shall be connected to any community sewage system constructed in the future to within four hundred feet (400') of the Petitioner's property line when connection can be made by gravity flow and the owner(s) are notified and legally required to do so.
5. Petitioner and their successor(s) will abide by the operation and maintenance requirements of the most current SNHD regulations governing individual sewage disposal systems.
6. Construction of the ISDS must be commenced within one (1) year of the date hereof. If the construction has not been commenced within that period, this variance shall automatically expire and be of no further force and effect, unless application is made and approved for an extension of time prior to the expiration date by Petitioner or Petitioner's successor(s) in interest.

Attachments:

- A. Authorization Letter
- B. Variance Candidate Application
- C. Justification Letter from the Petitioner
- D. Recorded Plat for Cathedral Rock View
- E. Proposed ISDS Plan
- F. Absorption Trench Detail
- G. Percolation Test
- H. Soil Boring Logs
- I. ISDS Density Map
- J. Public Notice

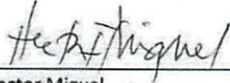
Attachment A: Authorization Letter

Friday, January 15, 2021

Southern Nevada Health District  
280 South Decatur Boulevard  
Las Vegas, Nevada 89107

**Re: Letter of Authorization**

This letter serves as confirmation that Las Vegas Civil Engineering is duly authorized to prepare and represent my septic system variance application for my property located at 4731 Knotty Pine Way, Las Vegas, Nevada 89124.



Hector Miguel

State of Nevada  
} S.S.  
County of Clark

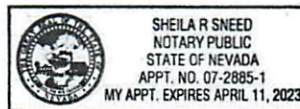
This instrument was acknowledged before me on Jan 15, 2021



Notary Name:

Notary Public in and for said County and State

My Commission expires on 4/11/2023



Attachment B: Variance Candidate Application (Page 1 of 3)



VARIANCE CANDIDATE WORKSHEET

PART I:

ESTABLISHMENT INFORMATION

Name of Facility/Establishment: Hector Miguel  
Health Permit Number: None Date of Inquiry: \_\_\_\_\_  
Name of Operator/Agent: Las Vegas Civil Engineering  
Address of Operator/Agent: 2251 N. Rampart Blvd. No. 418, Las Vegas, Nevada 89128  
Contact Information of Operator/Agent:  
Office Phone: 702-515-6741 Cell Phone: 702-515-6741  
Fax Number: 702-515-6771 Email Address: JOEY@LVCE.NET  
If corporation, the name/title of individual to sign for Variance document:  
Name: Joey DeBlanco  
Title: President

OWNER INFORMATION

Name of Property Owner: Hector Miguel  
Address of Property Owner: 9344 ARROWHEAD BLUFF AVE, LAS VEGAS, NV 89149  
Contact Information of Property Owner:  
Office Phone: \_\_\_\_\_ Cell Phone: 702-277-4975  
Fax Number: \_\_\_\_\_ Email Address: \_\_\_\_\_

PROPERTY INFORMATION

Property Address: 4731 KNOTTY PINE WAY  
Assessor's Parcel Number (APN): 129-36-111-016  
Describe location within larger facility (i.e. hotel/casino/resort, etc.):  
Single family residence only

Describe Variance Issue (s): (Include sections of the Regulation or Nevada Administrative Code that applies to the request for a variance)

1. Sections 11.20.2, requiring a minimum of one fourth (1/4) acre (10,500 sq. ft.) for the installation of an individual sewage disposal system (ISDS) on a lot served by an off-site water supply.
2. Section 5.2, requiring that no septic tank be within 8' of a building or a deep absorption field be located within 20' of a building without a Cone of Influence letter submitted by a State of Nevada registered professional engineer.
3. Section 5.1, requiring that no septic tank or leach field be within 10' of a property line.

Attachment B: Variance Candidate Application (Page 2 of 3)

**PART II:**

Nevada Administrative Code 439.240 states in general that certain conditions or circumstances must be shown to exist in order for a Board of Health to approve a request for a Variance from adopted public health regulations. A variance application letter (as noted below in PART III) MUST specifically address each of the following issues:

1. There must be circumstances or conditions which are unique to the applicant, and do not generally affect other persons subject to the regulation. Please indicate how your request is unique to your situation and is, therefore, not likely to affect other persons subject to the regulations:

The required setbacks create a hardship due to the non-conforming lot size. Therefore, the ability to use the property for a single family residence is substantially impacted.

2. There must be circumstances or conditions which make compliance with the regulation unduly burdensome and cause a hardship to and abridge a substantial property right of the applicant, and the variance is necessary to render substantial justice to and preserve the property rights of the applicant. Please indicate in what manner compliance with the regulation would be burdensome or cause a hardship on your business or how the free use of your property may be affected (if economic factors are an issue, please include estimates regarding the costs that would incurred by compliance):

The lot would be rendered unusable by the owner without the variance.

3. Granting the variance will not be detrimental or pose a danger to the public health and safety. Please provide evidence that the variance request, if approved, will not adversely affect the safe and sanitary operation of the applicant(s) pool, spa, or food establishment:

The septic system will be engineered to all other development standards required by the SNHD; except for the deviations being requested.

Attachment B: Variance Candidate Application (Page 3 of 3)

**NAC 439.240 Approval by State Board of Health. (NRS 439.150, 439.190, 439.200)**

1. The State Board of Health will grant a variance from a regulation only if it finds from the evidence presented at the hearing that:
    - (a) There are circumstances or conditions which:
      - (1) Are unique to the applicant;
      - (2) Do not generally affect other persons subject to the regulation;
      - (3) Make compliance with the regulation unduly burdensome; and
      - (4) Cause a hardship to and abridge a substantial property right of the applicant; and
    - (b) Granting the variance:
      - (1) Is necessary to render substantial justice to the applicant and enable the applicant to preserve and enjoy his or her property right; and
      - (2) Will not be detrimental or pose a danger to public health and safety.
  2. Whenever an applicant for a variance alleges that he or she suffers or will suffer economic hardship by complying with the regulation, the applicant must submit evidence demonstrating the costs of compliance with the regulation. The Board will consider the evidence and determine whether those costs are unreasonable.
- [Bd. of Health, Variances Reg. §§ 2.7-2.8, eff. 10-16-80; A 2-5-82; 1-19-84]

**PART III:**

A **Variance Application Letter**, which includes all information provided by the applicant on his worksheet, must be submitted in writing to the Environmental Health Division (EHD) Director no later than 40 days before the monthly Board of Health Meeting. **The Application letter must be on the owner's letterhead signed by the Owner/Corporate Officer specifically listing which part(s) of the Regulation the proposed Variance covers with this completed Worksheet as an attachment. The written Application Letter must take particular care in providing statements and evidence of circumstances or conditions and reasons why the District Board of Health should grant the Variance as listed in NAC 439.240 as shown at the top of this page. ALL information you have provided in PART I and II of this Worksheet must be included in the body of the letter.** The evidence required may include 8 1/2" x 11" or 11" x 17" detailed drawings and/or photographs.

The Variance process is outlined in Nevada Administrative Code (NAC) 439.200 through 439.260 with the exception that an application fee is payable to SOUTHERN NEVADA HEALTH DISTRICT (SNHD).

**This section to be completed by SNHD staff ONLY**

Next closing date is: \_\_\_\_\_ for the \_\_\_\_\_ BOH Meeting.

Referred by: \_\_\_\_\_  
(Print Name of REHS)

Completed by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Print Name of REHS if not by supervisor)

Received by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Owner/Operator/Agent)

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature of SNHD Manager)



Attachment C: Justification Letter from Petitioner

Friday, January 15, 2021

Southern Nevada Health District  
280 South Decatur Boulevard  
Las Vegas, Nevada 89107

Re: *Letter of Justification*  
*4731 Knotty Pine Way*  
*APN 129-36-111-016*



To Whom It May Concern:

Las Vegas Civil Engineering is assisting the property owner of the above-mention property in obtaining building permits. The purpose of this letter is to request a variance on the following regulations:

1. Sections 11.20.2, requiring a minimum of one fourth (1/4) acre (10,900 sq. ft.) for the installation of an individual sewage disposal system (ISDS) on a lot served by an off-site water supply
2. Section 5.2, requiring that no septic tank be within 8' of a building or a deep absorption field be located within 20' of a building without a Cone of Influence letter submitted by a State of Nevada registered professional engineer;
3. Section 5.1, requiring that no septic tank or leach field be within 10' of a property line.

The property is located at 4731 Knotty Pine Way and was established in 1956 from the Cathedral Rock View Plat Book 5 Page 5. Most of the properties within this subdivision are nonconforming and have appeared in front of this Board for similar reasons. Therefore, we respectfully request a variance to construct the septic system as shown on the attached Utility Plan.

Regards,  
Joey DeBlanco

Attachment D: Recorded Plat for Cathedral Rock View

**CATHEDRAL ROCK VIEW  
PLAT**

PORTION OF THE N<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>, SEC. 36, T19S, R56E, M3B & 4M  
CLARK COUNTY, NEVADA

Scale 1"=50'

Map of American Public Land in California  
As well as other public lands in Nevada  
Under the jurisdiction of the Department of the Interior,  
Bureau of Land Management  
File No. 100-100-100-100-100  
The above is the record of the  
Survey of the Department of the Interior,  
February 1920

**ENGINEERS CERTIFICATE**

I, George C. Alexander, County Engineer of Clark County, Nevada, do hereby certify that the above plat was prepared by me and all the lots, lots and streets of the plat are as shown on the plat and that the plat is a true and correct copy of the original plat as shown on the plat and that the plat is a true and correct copy of the original plat as shown on the plat.

George C. Alexander  
County Engineer of Clark County, Nevada

**OWNERS CERTIFICATE AND DEDICATION**

BEFORE ME, the undersigned authority, on this day personally appeared the undersigned, a duly qualified authority, who acknowledged to me that they executed the foregoing instrument for the purposes and consideration therein expressed. The public utility easements indicated on the plat are hereby established for the use and maintenance of public utilities only.

IN WITNESS WHEREOF, my hand and seal of said County are hereunto set on this day of \_\_\_\_\_ 19\_\_\_\_.

Thomas J. Quinn  
County Clerk

**ACKNOWLEDGMENT**

I, George C. Alexander, County Engineer of Clark County, Nevada, do hereby certify that the above plat was prepared by me and all the lots, lots and streets of the plat are as shown on the plat and that the plat is a true and correct copy of the original plat as shown on the plat.

George C. Alexander  
County Engineer of Clark County, Nevada

**COUNTY ENGINEER'S CERTIFICATE**

I, George C. Alexander, County Engineer of Clark County, Nevada, do hereby certify that I have examined the plat map of Cathedral Rock View, and that the subdivision of same herein is substantially the same as it appeared on the plat map and approved as a Public Utility Plat, that all provisions of the Planning Commission Act and any local ordinances applicable at the time of the approval of the plat have been complied with, and that I am satisfied that this map is substantially correct.

Date May 22, 1920.

George C. Alexander  
County Engineer

LOT	OWNER	ACRES	LOT	OWNER	ACRES
1	W. H. ...	0.12	7	W. H. ...	0.12
2	W. H. ...	0.12	8	W. H. ...	0.12
3	W. H. ...	0.12	9	W. H. ...	0.12
4	W. H. ...	0.12	10	W. H. ...	0.12
5	W. H. ...	0.12	11	W. H. ...	0.12
6	W. H. ...	0.12	12	W. H. ...	0.12

**APPROVAL**

Approved this 9 day of April, 1920, by the Planning Commission of Clark County.

George C. Alexander  
Chairman

**APPROVAL**

Approved and accepted this 12 day of June, by the Board of County Commissioners of the County of Clark, Nevada.

Walter H. ...  
County Clerk

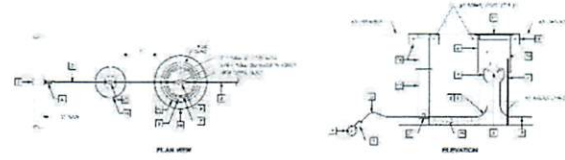
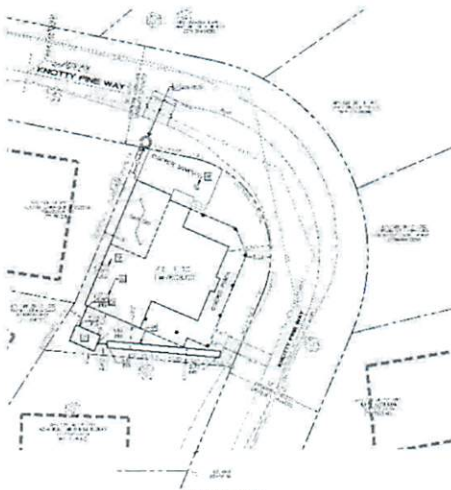
**THURS**

1920

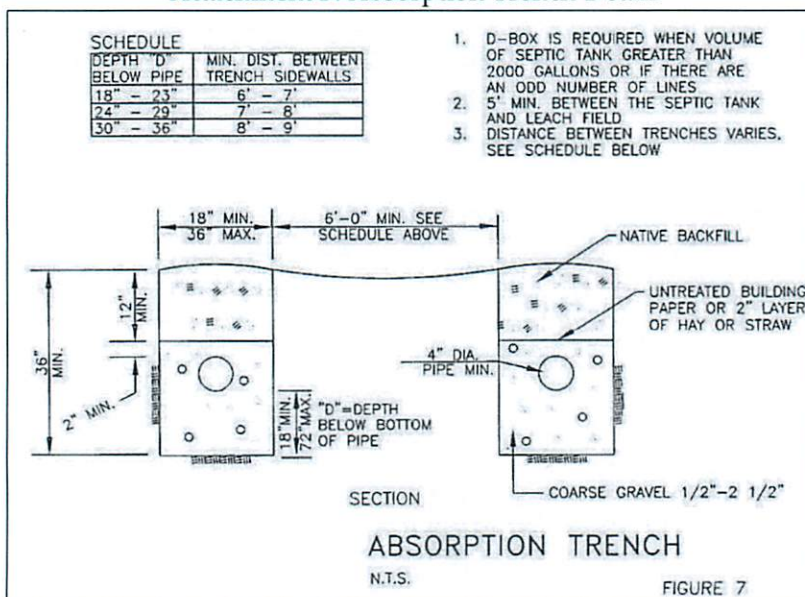
George C. Alexander  
County Engineer

May 5 Am 5

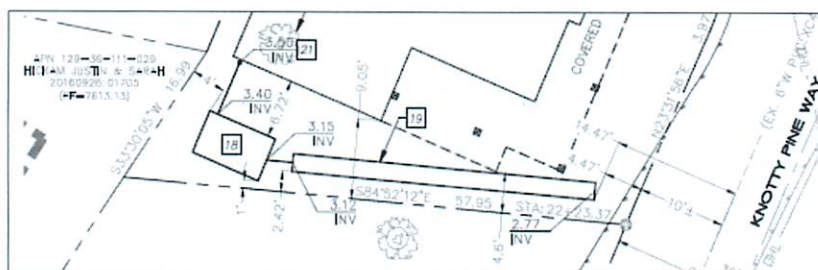
# Attachment E: Proposed ISDS Plan

 <p><b>PLAN VIEW</b></p> <p><b>ELEVATION</b></p>	<p style="font-size: small;">NOTE: THIS PLAN IS BASED ON THE INFORMATION PROVIDED BY THE CLIENT AND THE FIELD SURVEY. THE CLIENT IS RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED. THE ENGINEER HAS CONDUCTED A VISUAL CHECK OF THE PLAN AND ELEVATION AND HAS FOUND THEM TO BE REASONABLY ACCURATE. HOWEVER, THE ENGINEER HAS NOT CONDUCTED A FIELD SURVEY TO VERIFY THE INFORMATION PROVIDED. THE CLIENT IS ADVISED THAT THE INFORMATION PROVIDED IS NOT GUARANTEED AND THAT THE ENGINEER ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS IN THIS PLAN AND ELEVATION. THE CLIENT IS ADVISED THAT THE ENGINEER IS NOT RESPONSIBLE FOR ANY DAMAGE TO PERSONS OR PROPERTY RESULTING FROM THE USE OF THIS PLAN AND ELEVATION. THE CLIENT IS ADVISED THAT THE ENGINEER IS NOT RESPONSIBLE FOR ANY COSTS INCURRED BY THE CLIENT IN CONNECTION WITH THE USE OF THIS PLAN AND ELEVATION. THE CLIENT IS ADVISED THAT THE ENGINEER IS NOT RESPONSIBLE FOR ANY DELAYS OR INTERRUPTIONS IN THE WORK RESULTING FROM THE USE OF THIS PLAN AND ELEVATION. THE CLIENT IS ADVISED THAT THE ENGINEER IS NOT RESPONSIBLE FOR ANY OTHER MATTERS THAT MAY BE AFFECTED BY THE USE OF THIS PLAN AND ELEVATION. THE CLIENT IS ADVISED THAT THE ENGINEER IS NOT RESPONSIBLE FOR ANY OTHER MATTERS THAT MAY BE AFFECTED BY THE USE OF THIS PLAN AND ELEVATION.</p>	<p><b>UTILITY NOTES</b></p> <ul style="list-style-type: none"> <li>1. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>2. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>3. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>4. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>5. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>6. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>7. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>8. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>9. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> <li>10. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY AND RECORD DRAWINGS.</li> </ul>
<p><b>CORRECTION DETAIL</b></p> <p><b>BENCHMARK</b> BENCH MARK IS LOCATED AT THE CORNER OF THE LOT. THE BENCHMARK IS A 4" DIA. IRON PIPE WITH A CAP. THE BENCHMARK IS SET AT AN ELEVATION OF 100.00.</p> <p><b>BARMS OR BEARINGS</b> THE BARS OR BEARINGS ARE LOCATED AT THE CORNER OF THE LOT. THE BARS OR BEARINGS ARE SET AT AN ELEVATION OF 100.00.</p> <p><b>LEGAL DESCRIPTION</b> THE LEGAL DESCRIPTION IS AS SHOWN ON THE PLAT.</p> <p><b>FLOOD ZONE</b> THE FLOOD ZONE IS AS SHOWN ON THE PLAT.</p> <p><b>EARTHWORKS DISTURBANCE</b> THE EARTHWORKS DISTURBANCE IS AS SHOWN ON THE PLAT.</p> <p><b>THE FLOW INFORMATION</b> THE FLOW INFORMATION IS AS SHOWN ON THE PLAT.</p> <p><b>LINKED WATER PRESSURE NOTE</b> LINKED WATER PRESSURE NOTE IS AS SHOWN ON THE PLAT.</p> <p><b>GRAVEL TRENCH DETAIL</b> GRAVEL TRENCH DETAIL IS AS SHOWN ON THE PLAT.</p>	 <p style="text-align: center;"><b>PLAN VIEW</b></p>	<p><b>APPROVED FOR CONSTRUCTION</b></p> <p>DATE: APR 18, 2011</p> <p>SCALE: AS SHOWN</p> <p>PROJECT: CLARK COUNTY DEPARTMENT OF PUBLIC WORKS DEVELOPMENT REVIEW</p> <p>PROJECT NO: 11-01</p> <p>SCALE: AS SHOWN</p>
<p><b>PROJECT AND DESIGNER</b></p> <p>PROJECT: CLARK COUNTY DEPARTMENT OF PUBLIC WORKS DEVELOPMENT REVIEW</p> <p>DESIGNER: LAD MEGARD CIVIL ENGINEERING</p> <p>ADDRESS: 1111 N. CLARK COUNTY AVENUE, SUITE 100, CLARK COUNTY, NEVADA</p>		

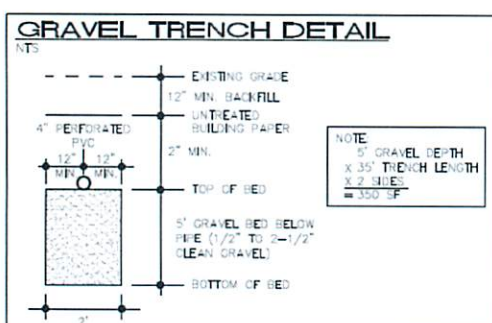
### Attachment F: Absorption Trench Detail



SNHD Standard Trench Detail



Applicant's Proposed Trench Design Overview



Applicant's Proposed Trench Design Cross Section

Correction: Gravel depth will be 6.5' instead of 5' to be meet the required leaching area of 450 sqft.

Attachment G: Percolation Test (Page 1 of 3)



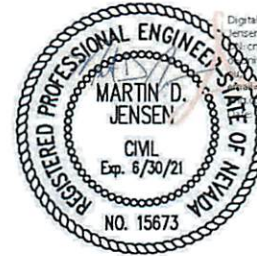
Grounded in Excellence

Geotechnical Engineering  
 Construction Materials Testing & Inspection  
 Building Code Compliance  
 Occupational Health & Safety  
 Environmental  
 Building Envelope

**PERCOLATION TEST RESULTS**  
**TEST NUMBER P-3**

Project Name Cabin Residence  
 Project Location 4731 Knotty Pine Way  
 Test Performed By Kalie Kelly  
 Date Of Test: January 7, 2021  
 Project No.: G-20-181  
 Test Location Shown On Figure 1

Reviewed By:



Digitally signed by Martin D. Jensen, P.E., on 2021.01.14 12:22:23 -0800  
 cn=Martin D. Jensen, P.E., o=Universal Engineering Sciences, ou=Universal Engineering Sciences, c=US

**Test Data**

Hole diameter (Inches) 4-Inches Test Depth (inches) 60.4 - inches  
 Time of presoaking (hours) 24-Hours Depth of water in hole at start of test (inches) 6.0-Inches

TIME OF READING	TIME DIFFERENCE (MINUTES) (1)	DEPTH TO WATER (INCHES)	DEPTH DIFFERENCE (INCHES) (2)	PERCOLATION RATE (MINUTES/INCHES) (1) / (2)	COMMENTS
11:43 AM	-	54.4	-	-	Start test
11:53 AM	10	57.4	3.0	3.3	-
12:06 PM	-	54.4	-	-	Refill hole
12:16 PM	10	57.2	2.8	3.6	-
12:18 PM	-	54.4	-	-	Refill hole
12:28 PM	10	56.6	2.2	4.6	-
12:50 PM	-	54.4	-	-	Refill hole
1:00 PM	10	56.6	2.2	4.6	-
1:21 PM	-	54.4	-	-	Refill hole
1:31 PM	10	56.9	2.5	4.0	-
1:33 PM	-	54.4	-	-	Refill hole
1:43 PM	10	56.8	2.4	4.2	End test

**SOIL DATA**

DESCRIPTION OF SOILS ENCOUNTERED TO A DEPTH OF FIFTEEN (15) FEET. INCLUDED DESCRIPTION IN TERMS OF UNIFIED SOIL CLASSIFICATION SYSTEM AND ALSO INFORMATION ON WATER IF ANY:

**Soil profile from adjacent Boring B-2:**

Depth (ft)	USCS	Description
0 - 1.5	FILL	Silty SAND, some gravel, some organics, slightly moist, brown
1.5 - 4.0	SC	Clayey SAND, some gravel, some organics, slightly moist, brown, Med. Dense - Dense
4.0 - 7.5	SM	Silty SAND, some gravel, slightly moist, light grayish-brown, Dense - V. Dense
7.5 - 10.5	CAL	CALICHE, dry, light grayish-brown, Mod. Hard
10.5 - 14.0	SC	Clayey SAND, some gravel, slightly moist, light brown, Dense - V. Dense
14.0 - 15.0	CAL	CALICHE, dry, light gray, Mod. Hard
15	---	End boring. Groundwater not encountered within depth drilled.

Attachment G: Percolation Test (Page 2 of 3)



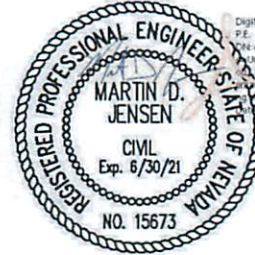
Grounded in Excellence

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 Construction Materials Testing & Inspection  
 Building Code Compliance  
 Occupational Health & Safety  
 Environmental  
 Building Envelope

**PERCOLATION TEST RESULTS**  
**TEST NUMBER P-4**

Project Name Cabin Residence  
 Project Location 4731 Knotty Pine Way  
 Test Performed By Kalie Kelly  
 Date Of Test: January 7, 2021  
 Project No.: G-20-181  
 Test Location Shown On Figure 1

Reviewed By:



Digitally signed by Martin D. Jensen,  
 P.E.  
 DN: cn=Martin D. Jensen, P.E.,  
 o=Universal Engineering Sciences,  
 ou=Universal Engineering Sciences,  
 c=US,  
 email=mdj@universalengineering.com,  
 2021.01.14 12:22:53 -0800

**Test Data**  
 Hole diameter (Inches) 4-Inches Test Depth (inches) 59.5 - inches  
 Time of presoaking (hours) 24-Hours Depth of water in hole at start of test (inches) 6.0-Inches

TIME OF READING	TIME DIFFERENCE (MINUTES) (1)	DEPTH TO WATER (INCHES)	DEPTH DIFFERENCE (INCHES) (2)	PERCOLATION RATE (MINUTES/INCHES) (1) / (2)	COMMENTS
11:13 AM	-	53.5	-	-	Start test
11:43 AM	30	57.6	4.1	2.4	-
11:46 AM	-	53.5	-	-	Refill hole
12:16 PM	30	58.0	4.5	2.2	-
12:27 PM	-	53.5	-	-	Refill hole
12:57 PM	30	56.6	3.1	3.2	-
1:07 PM	-	53.5	-	-	Refill hole
1:37 PM	30	57.2	3.7	2.7	-
1:46 PM	-	53.5	-	-	Refill hole
2:16 PM	30	56.0	2.5	4.0	-
2:22 PM	-	53.5	-	-	Refill hole
2:52 PM	30	56.2	2.7	3.7	-
3:00 PM	-	53.5	-	-	Refill hole
3:30 PM	30	56.0	2.5	4.0	-
3:32 PM	-	53.5	-	-	Refill hole
4:02 PM	30	56.2	2.7	3.7	End test

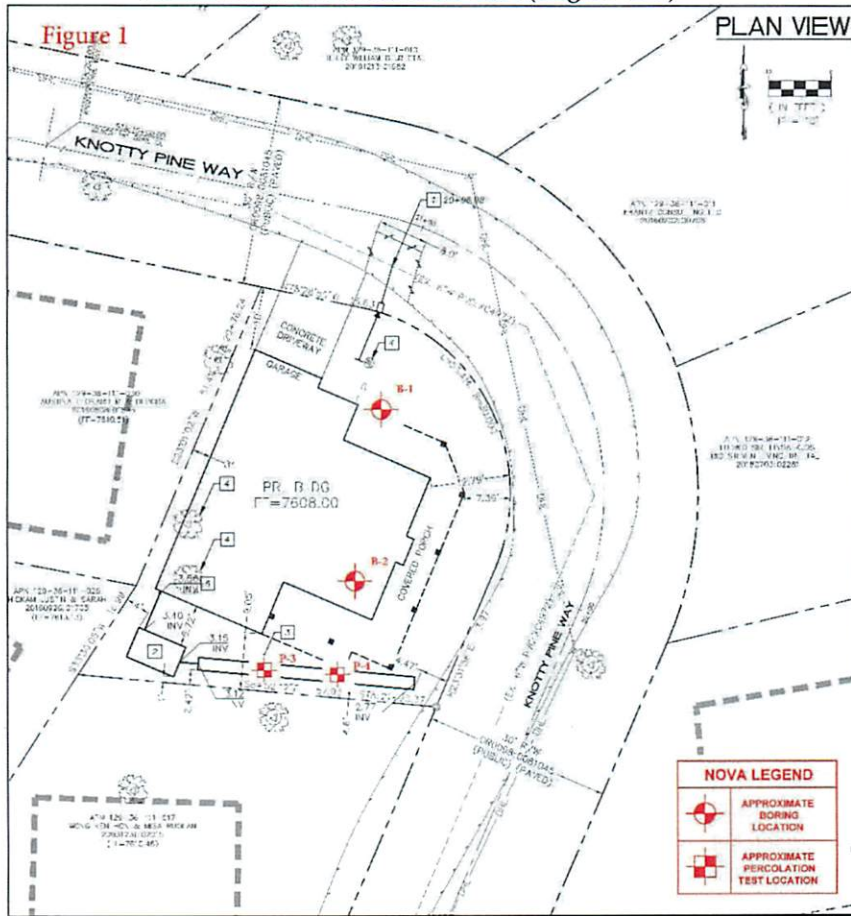
**SOIL DATA**

DESCRIPTION OF SOILS ENCOUNTERED TO A DEPTH OF FIFTEEN (15) FEET. INCLUDED DESCRIPTION IN TERMS OF UNIFIED SOIL CLASSIFICATION SYSTEM AND ALSO INFORMATION ON WATER IF ANY:

**Soil profile from adjacent Boring B-2:**

Depth (ft)	USCS	Description
0 - 1.5	FILL	Silty SAND, some gravel, some organics, slightly moist, brown
1.5 - 4.0	SC	Clayey SAND, some gravel, some organics, slightly moist, brown, Med. Dense - Dense
4.0 - 7.5	SM	Silty SAND, some gravel, slightly moist, light grayish-brown, Dense - V. Dense
7.5 - 10.5	CAL	CALICHE, dry, light grayish-brown, Mod. Hard
10.5 - 14.0	SC	Clayey SAND, some gravel, slightly moist, light brown, Dense - V. Dense
14.0 - 15.0	CAL	CALICHE, dry, light gray, Mod. Hard
15	---	End boring. Groundwater not encountered within depth drilled.

Attachment G: Percolation Test (Page 3 of 3)









Attachment H: Soil Boring (Page 1 of 2)

BORING LOG B-1											
CLIENT: Las Vegas Civil Engineering					PROJECT: Cabin Residence						
BORING LOCATION: SEE SITE MAP				ELEVATION (ft): N/A		SITE: 4731 Knotty Pine Way					
MOISTURE CONTENT %	DRY DENSITY PCF	SAMPLE TYPE*	SAMPLE	BLOWS/FT	DEPTH, FT	USCS SYMBOL	GRAPHIC	SOIL DESCRIPTION	CONSISTENCY		
					0	FILL		FILL: Silty SAND, some gravel, some organics, slightly moist, light brown			
					1	CL		Sandy CLAY, some gravel, some organics, slightly moist, light brown	Stiff		
		B			3	SM		Silty SAND, trace gravel, some organics, slightly moist, light brown	Med. Dense		
		SPT		80	4				V. Dense		
					6			-some gravel			
		SPT		29	7				Dense		
					9			-light grayish-brown			
					12			-some lenses of clayey sand, light brown	Dense		
		SPT		89/10"	13				V. Dense		
					14	CAL		CALICHE, dry, light gray	Mod. Hard		
					15			Bottom of Boring at 15 feet	Hard		
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL.					* SAMPLE TYPE: R = RING B = BAG SPT = STANDARD PENETRATION BN = BULL NOSE C = CORE						
<b>NOVA GEOTECHNICAL AND INSPECTION SERVICES</b>					NOTES: Groundwater was not encountered within the depth drilled.			DATE DRILLED:		PAGE NO:	
								12/5/2020		1 of 1	
								PROJECT NO.:		PLATE NO.:	
					G-20-181			1			

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER WITH TIME AND AT OTHER LOCATIONS.



Attachment H: Soil Boring (Page 2 of 2)

BORING LOG B-2									
CLIENT: Las Vegas Civil Engineering					PROJECT: Cabin Residence				
BORING LOCATION: SEE SITE MAP				ELEVATION (ft): N/A		SITE: 4731 Knotty Pine Way			
MOISTURE CONTENT %	DRY DENSITY PCF	SAMPLE TYPE*	SAMPLE	BLOWS/FT	DEPTH, FT	USCS SYMBOL	GRAPHIC	SOIL DESCRIPTION	CONSISTENCY
					0	FILL		FILL: Silty SAND, some gravel, some organics, slightly moist, brown	
					1	SC		Clayey SAND, some gravel, some organics, slightly moist, brown	Med. Dense
		SPT		34	2				Dense
					3				
					4	SM		Silty SAND, some gravel, slightly moist, light grayish-brown	
					5				
					6				
		SPT		50/4"	7				V. Dense
					8	CAL		CALICHE, dry, light grayish-brown	Mod. Hard
					9				
					10				
					11	SC		Clayey SAND, some gravel, slightly moist, light brown	Dense
					12				
		SPT		66	13				V. Dense
					14	CAL		-light brown to brown CALICHE, dry, light gray	Mod. Hard
					15			Bottom of Boring at 15 feet	

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER WITH TIME AND AT OTHER LOCATIONS.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL.

\* SAMPLE TYPE: R = RING B = BAG SPT = STANDARD PENETRATION  
BN = BULL NOSE C = CORE

**NOVA  
GEOTECHNICAL  
AND INSPECTION  
SERVICES**

NOTES:  
Groundwater was not encountered within the depth drilled.

DATE DRILLED:

12/5/2020  
PROJECT NO.:

G-20-181

PAGE NO:

1 of 1  
PLATE NO.:

2

Attachment I: ISDS Density Map



There is one existing well located downgradient and within six hundred feet (600') of the proposed ISDS. The Subject Property is also located in an area with a high density of existing ISDS; there are 189 lots with an active, traceable ISDS permit within one square mile of the property boundaries.

Attachment J: Public Notice



PUBLIC NOTICE

The Southern Nevada District Board of Health will conduct a PUBLIC HEARING on Thursday, March 25, 2021 at 9:00 AM during its regular monthly meeting in the Red Rock Conference Room at the Southern Nevada Health District at 280 S. Decatur Blvd., Las Vegas, Nevada, to approve or deny a variance request filed by Hector Miguel ("Petitioner"), to permit and install a new individual sewage disposal system on the property located at 4731 Knotty Pine Ave., Mt. Charleston, NV 89124, APN 129-36-111-016.

The variance request is made to allow the Petitioner to permit the installation of a conventional septic system not in accordance with the *Southern Nevada District Board of Health Regulations Governing Individual Sewage Disposal Systems and Liquid Waste Management*. The variance will allow the Petitioner to 1) install a septic system on an undersized lot; 2) allow a reduced property line setback; and 3) allow a reduced building setback.

All interested persons may appear at the hearing and state their positions. All written and oral submissions will be considered by the Southern Nevada District Board of Health. Written comments must be forwarded by March 24, 2021 to:

Robert Fyda, P.E., REHS  
Environmental Health Engineer/Supervisor  
Southern Nevada Health District  
P.O. Box 3902  
Las Vegas, Nevada 89127  
fyda@snhd.org

The variance application is available for review at the Southern Nevada Health District, 280 S Decatur Blvd, Las Vegas, Nevada 89107. Please contact Mallory Jett-Edwards at (702) 759-0660 to schedule an appointment to review the application during the normal business hours of 8:00 AM to 4:30 PM.

- S -

Chris Saxton, MPH-EH, REHS  
Environmental Health Director

March 4, 2021

Date