



42893

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
Alaska Hydrologic Survey

WATER WELL LOG Revised 08/18/2016

Drilling Started: ___/___/___ Completed: 7 / 6 / 2015 Pump Install: ___/___/___

City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Matanuska-Susitna Borough	Merciful Estates		1	Drobenko Investments Llc AK,

Well location: Latitude 61.6014214 **Longitude** -149.354263
 Meridian S Township 018N Range 001E Section 31, SE 1/4 of NE 1/4 of SW 1/4 of SW 1/4

<p>BOREHOLE DATA: (from ground surface) Suggest T.M. Hanna's hydrogeologic classification system* https://my.ngwa.org/NC_Product?id=a18500000BYub3AAD</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th colspan="2" style="text-align: center;">Depth</th> </tr> <tr> <th></th> <th style="text-align: center;">From</th> <th style="text-align: center;">To</th> </tr> </thead> <tbody> <tr> <td>top soil</td> <td style="text-align: center;">0</td> <td style="text-align: center;">6</td> </tr> <tr> <td>loose gravel</td> <td style="text-align: center;">6</td> <td style="text-align: center;">35</td> </tr> <tr> <td>clay gravel</td> <td style="text-align: center;">35</td> <td style="text-align: center;">68</td> </tr> <tr> <td>water gravel</td> <td style="text-align: center;">68</td> <td style="text-align: center;">87</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		Depth			From	To	top soil	0	6	loose gravel	6	35	clay gravel	35	68	water gravel	68	87																															<p>Drilling method: <input checked="" type="checkbox"/> Air rotary, <input type="checkbox"/> Cable tool, <input type="checkbox"/> Other _____ Well use: <input checked="" type="checkbox"/> Public supply, <input type="checkbox"/> Domestic, <input type="checkbox"/> Reinjection, <input type="checkbox"/> Hydrofracking <input type="checkbox"/> Commercial, <input type="checkbox"/> Observation/Monitoring, <input type="checkbox"/> Test/Exploratory, <input type="checkbox"/> Cooling, <input type="checkbox"/> Irrigation/Agriculture, <input type="checkbox"/> Grounding, <input type="checkbox"/> Recharge/Aquifer Storage, <input type="checkbox"/> Heating, <input type="checkbox"/> Geothermal Exploration, <input type="checkbox"/> Other _____ Fluids used: _____ Depth of hole: 90 _____ ft Casing stickup: 3 _____ ft Casing type: STEEL Casing thickness: _____ inches Casing diameter: _____ inches Casing depth: _____ ft Liner type: _____ Depth: _____ ft Diameter: _____ inches Note: _____ Well intake opening type: <input type="checkbox"/> Open end, <input type="checkbox"/> Open hole, <input checked="" type="checkbox"/> Other screened Screen type: _____, Screen mesh size: _____ Screen start: 80 _____ ft, Screen stop: 90 _____ ft, Perforated <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Perforation description: _____ Perf from: _____ ft, Perf to: _____ ft, Perf to: _____ ft, Perf to: _____ ft Gravel packed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Gravel start: _____ ft, Gravel stop: _____ ft Note: _____ Static water (from top of casing): 49 _____ ft on 7 / 6 / 2015 Artesian well <input type="checkbox"/> Pumping level & yield: _____ feet after _____ hours at _____ gpm Method of testing: _____ Development method: _____ Duration: _____ Recovery rate: _____ gpm Grout type: _____ Volume _____ Depth: From _____ ft, To _____ ft Final pump intake depth: _____ ft Model: _____ Pump size: _____ hp Brand name: _____ Was well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Method of disinfection: _____ Was water quality tested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Water quality parameters tested: _____ Well driller name: Ed Bean..... Company name: E AND D WATER WELLS..... Mailing address: 3530 WEST SPENCE LN..... City: WASILLA State: AK Zip: 99623 Phone number: (907) 373 - 4598 Driller's signature: _____ Date: ___/___/___ Anchorage Municipal Code 15.55.060(I) and North Pole Ordinance 13.32.030(D) require that a copy of this well log be submitted to the Development Services Department/City within 30 days of well completion. City Permit Number: _____ Date of Issue: ___/___/___ Parcel Identification Number: _____ - _____ - _____</p>
	Depth																																																
	From	To																																															
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Include description or sketch of well location (include road names, buildings, etc.):

AS 41.08.020(b)(4) and AAC 11 AAC 93.140(a) require that a copy of the well log be submitted to the Department of Natural Resources within **45 days of well completion**. Well logs may be submitted using the online well log reporting system available at:

<https://dnr.alaska.gov/welts/>
 OR email electronic well logs to
dnr.water.reports@alaska.gov

*Guide for Using the Hydrogeologic Classification System for Logging Water Well Boreholes by Thomas M. Hanna NGWA Press



E & D Water Wells, LLC

3530 West Spence Ln.
Wasilla, AK 99623
(907) 373-1598 Fax: (907) 357-1598



Borough MATSU	Subdivision MERCIFUL ESTATES	Lot 1	Block	Section QTRS.	Section	Township	Range	Meridian SEWARD	
Location / Sketch CLASS A				Well Owner DROBENKO INV. 354 2819					
Depths Measured From: <input checked="" type="checkbox"/> Casing Top <input type="checkbox"/> Ground Surface				Well Depth:		Date Of Completion			
Borehole Data: Material Type & Color		Depth From To		Depth of Hole: 90 Ft. Depth of Casing: 82 Ft.		2.6.15			
Stick up		0	3	Depth To Static Water Level: 49' Ft. Below <input type="checkbox"/> Top of Casing <input type="checkbox"/> Ground Surface Date: 2.16.15					
Top Soil - mixed		3	9	Method Of Drilling: <input checked="" type="checkbox"/> Air Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other:					
Loose Sandy Gravel		9	38	Use Of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Monitor <input checked="" type="checkbox"/> Public Supply <input type="checkbox"/> Other					
Clay Gravel		38	71	Casing Stick-Up: 3' Ft. Dia. 6" In. to 90 Ft. Casing Type: ABS 20 In. to 90 Ft.					
Water Gravel		71	90	Well Intake Opening Type: <input type="checkbox"/> Open End <input checked="" type="checkbox"/> Screened <input type="checkbox"/> Perforated <input type="checkbox"/> Open Hole					
<div style="font-size: 4em; opacity: 0.5;">X</div>					Depths Of Openings: 80' To: 90' Ft.				
					Screen Type: STAINLESS STEEL In. 6" Slot/Mesh Size: 35 Length: 10' Ft.				
					Gravel Pack Type: LOOSE Volume Used: _____ Depth to Top: _____				
					Grout Type: Bentonite Volume: _____ Depth: From 10' Ft. to ground level				
					Development Method: AIR + TEST PUMP Duration: 1 hour				
					Pumping Level & Yield: _____ Ft. After 1 Hrs. Pumping 40 gpm				
					Pump Intake Depth: _____ Ft. Horsepower: Well Disinfected Upon Completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

CONTRACTOR INFORMATION:

E & D WATER WELLS
Registered Business Name

Ed Bean 7-6-15
Signature of Authorization Representative Date

REMARKS: **Bentonite was added to casing - Bentonite from 10' around casing 3" to ground level**
JOB #150070615



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

**Department of Environmental
Conservation**

DIVISION OF ENVIRONMENTAL HEALTH
Drinking Water Program

1700 E Bogard Rd. Bldg B, Ste 103
Wasilla, Alaska 99654
Main: 907.376.1805
Fax: 907.376.2382
www.dec.alaska.gov

March 7, 2016

Catherine Whaley
Firedance Tutoring Center
2070 N. Merciful Circle
Wasilla, AK 99654

RE: Firedance Tutoring Center
Lot 1, Merciful Estates
Drinking Water System Classification Determination: **Non-Transient Non-Community (NTNC)**
System Approval Required (PR# 9917)

Dear Ms. Whaley:

Thank you for submitting a completed *Public Water System Classification* form. According to the information submitted, this drinking water system will serve a tutoring center with up to 15 staff and 135 students. Based on a review of the submitted information, this drinking water system is classified as a Non-Transient Non-Community public water system

System Classification: Non-Transient Non-Community Water System (NTNC)	
Service Connections & Population Served	
Number of service connections	1
Number of days per year of operation	180
Residents (primary place of abode)	0
Non-transient (>6 months per year)	Up to 150
Transient (<6 months per year)	0

This drinking water system is required to be approved by the department. To request approval, please contract with a professional engineer licensed in the state of Alaska to provide engineering plans for the system to this office for review and approval. (Checklists detailing the submittal requirements are available upon request or online at: http://dec.alaska.gov/eh/dw/Engineering/Plan_rev_checklist.htm)

The department requests submittal of engineering plans within 60 days of the receipt of this letter. Contact this office to discuss an extension of time if necessary.

Please note, in addition to the plan review and routine water quality monitoring, the Drinking Water Regulations,

Ms. Catherine Whaley

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March 7, 2016

18 AAC 80.007, require that this system be actively supervised as described in the Operator Certification Regulations, 18 AAC 74, by operators who are certified in accordance with AS 46.30 and 18 AAC 74. For more information on operator certification requirements contact Ken Smith, Environmental Program Specialist (907-465-5136 or Ken.Smith@alaska.gov.)

The basis for this determination is information submitted by the owner of the system. If the summary above is inaccurate, please contact this office. You are required to contact the department to update this information when it changes. Changes to the water source, treatment (if provided), number of service connections, population served, or number of days of operation may result in a change to the system classification and the associated plan review and monitoring requirements. Contact this office for more information regarding classification determinations.

Appeal Process

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195- 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Requests for an adjudicatory hearing or informal review may be made by mail, electronic mail, or facsimile. Informal review requests must be delivered to the Division Director at 555 Cordova St., Anchorage, Alaska 99501, within 15 days of receipt of this decision. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, Larry Hartig, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days of this decision. If a hearing is not requested within 30 days, the right to appeal is waived. More information on the Department's administrative appeals process can be found at the following website: <http://www.dec.state.ak.us/commish/ReviewGuidance.htm>.

If you have any questions or concerns, please don't hesitate to contact me at 376-1805, or via email at gary.ellis@alaska.gov

Sincerely,



Gary Ellis, E.I.T.
Environmental Engineering Associate
Drinking Water Program, Wasilla Office

cc: Scott Fogue and Amy Hill, DEC, Drinking Water Program – via email
Breanna Bullock, DEC, Food Safety & Sanitation – via email
Oran Woolley, DEC, Engineering Support & Plan Review – via email
Ken Smith, DEC, Facilities Group – via email
Mike Erdman, P.E. (Erdman & Associates) – via email

ERDMAN & ASSOCIATES
Consulting Engineers / Water Testing Laboratory

5200 Dunbar Drive
 Wasilla, AK 99654

Phone 907-376-6989
 Fax 907-373-2157

August 4, 2015

Alaska Department of Environmental Conservation
 Attn: Mr. Oran Woolley
 1701 N Bogard Road
 Wasilla, AK 99654

Re: Firedance Tutoring Center; L1 Merciful Estates; Proposed Onsite Wastewater Disposal System;
 E&A Project #08092; REQUEST FOR APPROVAL TO CONSTRUCT

Mr. Woolley,

Attached for your review and approval are design drawings, ADEC plan review checklists and owner's statement, as well as a check for the ADEC plan review fee of \$360.

Project Description

The proposed project is a conventional onsite septic tank/drainfield. The facility served is a tutoring center, which will have a maximum of 10 staff members, and will serve a maximum of 120 students. Students do not attend full time, but rather have scheduled appointments for tutoring sessions.

Our design criteria and calculations are as follows:

Design Wastewater Flows:

Staff	15 gpd * 10 =	150
Students	10 gpd * 120 =	1,200
Total (Q)		1,250 GPD

Septic Tank Sizing:

$V = 0.75Q + 1,125 = 0.75(1,250) + 1,125 = 2,063$ gallons
 Design – 2,500 gallon 2-comp tank

Soil Absorption System Sizing:

Subsurface soils are clean gravel with sand, visually classified as GP-GW
 Assumed percolation rate faster than 1 minute/inch
 Design calls for ADEC-Approved filter sand – Design Application Rate 0.8 gpd/sq ft

Minimum SAS Size = $1,250 \text{ gpd} / (0.8 \text{ gpd/sq ft}) = 1,563 \text{ sq ft}$
 Design SAS Size – 30' x 55' = 1,650 sq ft

Mr. Oran Woolley, ADEC
Re: Fircdance Tutoring Center

4 August 2015
Page Two

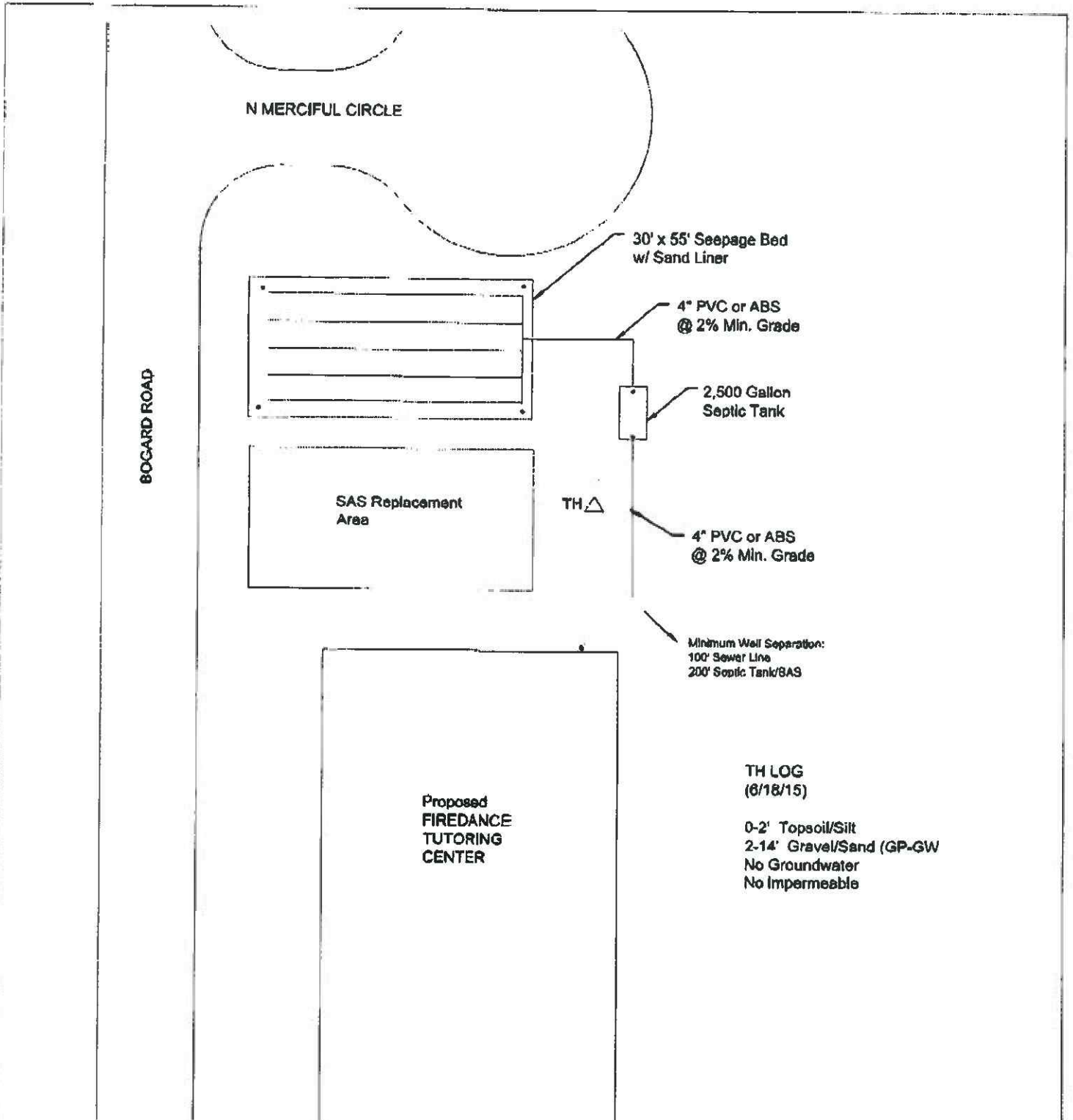
Summary

At this time we are requesting issuance of "Approval to Construct". Thank you for your assistance, and please call or email if you have any questions or need additional information.

Sincerely,

Michael R. Erdman, P.E.

cc: Alex Drobenko
Catherine Whaley



SEPTIC SYSTEM PLAN VIEW

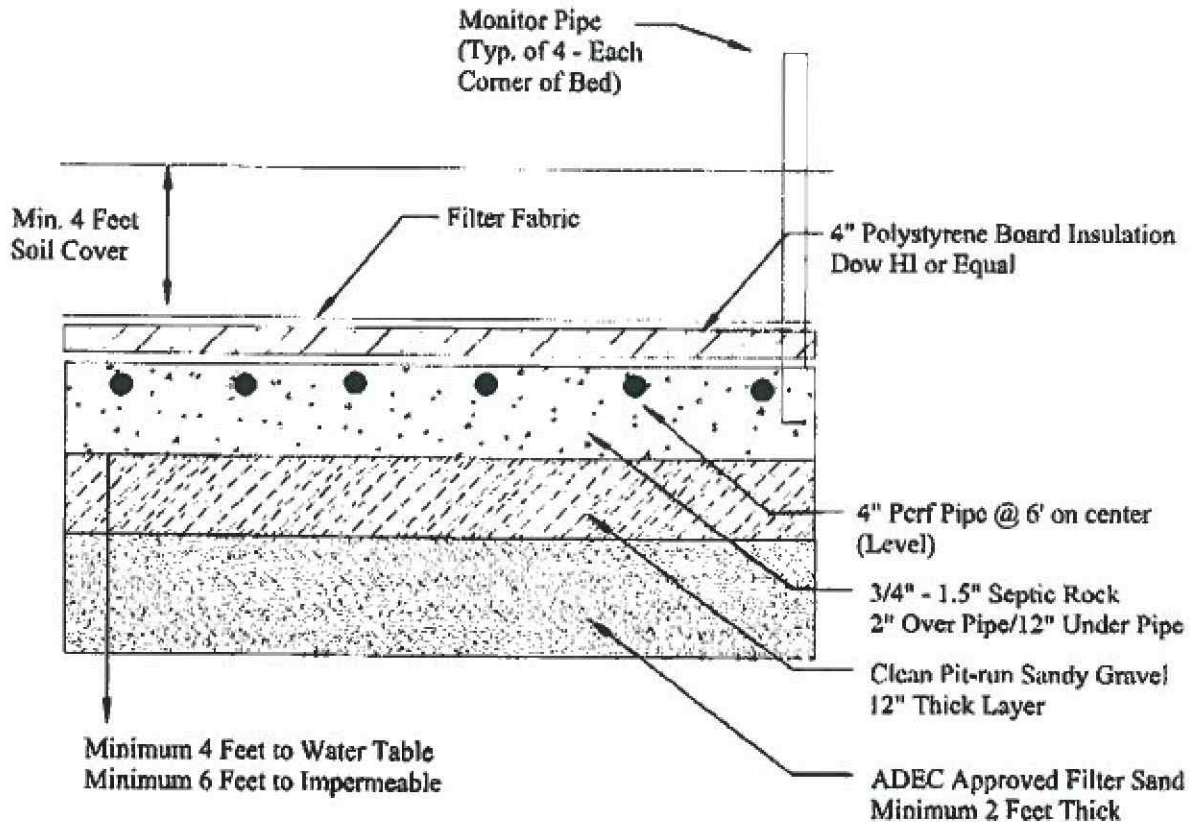
NTS

SEPTIC DESIGN DRAWING
 Firedance Tutoring Center
 Wasilla, Alaska

ERDMAN & ASSOCIATES
 5200 Dunbar Drive
 Wasilla, AK 99654



Sheet 1 of 2	Scale As Noted	Project #15110	4 August 2015
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SEEPAGE BED SECTION

NTS

NOTES:

1. Construction shall be in conformance with ADEC regulations and construction standards (Certified Installer Manual).
2. Contractor shall coordinate with Engineer to allow for inspection of all work prior to burial.
3. Contractor shall be responsible for construction site safety.

SEPTIC DESIGN DRAWING
 Firedance Tutoring Center
 Wasilla, Alaska

ERDMAN & ASSOCIATES
 5200 Dunbar Drive
 Wasilla, AK 99654



Sheet 2 of 2

Scale As Noted

Project #15110

4 August 2015



Department of Environmental Conservation
 Division of Water
 1400 West Northern Blvd.
 Anchorage, Alaska 99501
 Phone: (907) 269-8904



ALASKA PUBLIC WATER SYSTEM LOCATIONAL DATA COLLECTION FORM

Public Water System Name: Firedance Tutoring Center		PWS ID#:										
Name of Person Determining Lat/Long: Michael R. Erdman, PE		Phone: (907) 232-3140										
Name of Person Completing Form: Michael R. Erdman		Phone: (907) 232-3140										
Local Facility Name: Well		Date Collected:										
		Date Completed:										
1) Facility Type. (Check one)												
Sources: <input checked="" type="checkbox"/> Wellhead <input type="checkbox"/> Surface Water Intake <input type="checkbox"/> Treatment Plant												
2) The date the latitude and longitude were researched or collected. Example: 06/30/2007												
<table border="1" style="margin: auto;"> <tr> <td>0</td><td>3</td><td>/</td><td>2</td><td>4</td><td>/</td><td>2</td><td>0</td><td>1</td><td>6</td> </tr> </table>			0	3	/	2	4	/	2	0	1	6
0	3	/	2	4	/	2	0	1	6			
3) Latitude in decimal degrees. Must be recorded in WGS 84. For Alaska, latitudes are between 51 and 80 North. Give data to available accuracy. Example: +56.234230												
<table border="1" style="margin: auto;"> <tr> <td>+</td><td>6</td><td>1</td><td>.</td><td>6</td><td>0</td><td>1</td><td>4</td><td>2</td><td>1</td> </tr> </table>			+	6	1	.	6	0	1	4	2	1
+	6	1	.	6	0	1	4	2	1			
4) Longitude in decimal degrees. Must be recorded in WGS 84. For Alaska, longitudes are generally -126 to -180 West. The minus sign means "West." Use + for "East." Example: -136.23423												
<table border="1" style="margin: auto;"> <tr> <td>-</td><td>1</td><td>4</td><td>9</td><td>.</td><td>3</td><td>5</td><td>4</td><td>2</td><td>7</td> </tr> </table>			-	1	4	9	.	3	5	4	2	7
-	1	4	9	.	3	5	4	2	7			
5) Are the latitude/longitude coordinates taken at the Wellhead /Intake? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, describe the proximity to the wellhead/intake (for example, 30 feet NW of the wellhead or intake)												
6) Type of GPS Unit used to determine latitude and longitude. (Describe unit and model number) Samsung Galaxy S5												
7.) Lat/long accuracy in meters. GPS accuracy is typically encoded in the unit's display. The datum used must be in WGS 84. Example: 30. (meters)												
<table border="1" style="margin: auto;"> <tr> <td></td><td></td><td></td><td>3</td><td>0</td><td>.</td><td>Meters</td> </tr> </table>						3	0	.	Meters			
			3	0	.	Meters						
8.) Site map or aerial image identifying the location of the facility <u>must be provided</u> to assist DEC Staff verify the lat/long location in the State geospatial database. (As-built, Google Maps, Google Earth, MSN Live Earth, Yahoo Maps are all acceptable.)												
<input checked="" type="checkbox"/> Yes a map with approximate location has been provided.												