



## Board of Health Agenda

**Tuesday - April 09, 2019 5:30 PM**  
**Community Room**  
**City County Complex**  
**414 E Callender Street, Livingston, MT**

### BOH ADMIN

CALL TO ORDER/ROLL CALL

PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA (5 Minutes)

APPROVE MINUTES FROM BOH MEETING JANUARY 8, 2019  
[Park County Board of Health meeting January 2019.docx](#)

### OLD NEWS

### NEW BUSINESS

REVIEW AND SIGN THE COOPERATIVE AGREEMENT BETWEEN THE BOH AND STATE

[2019 Cooperative Agreement.docx](#)

DISCUSS/VOTE ON MULTIPLE ITEMS FOR THE NEW HEALTH DEPT. HEALTH OFFICER

Set Salary of Officer

Appoint 3 person interview panel

Approve Job Description

**Suggested Action: DISCUSS PAY, CONTRACT VERSES COUNTY EMPLOYEE, ASSIGN A SELECTION HIRING PANEL, SELECT SALARY**

[Health Officer draft.docx](#)

Variance request for for Rasmuson Property

[Rasmuson2019.pdf](#)

Gardiner Business Park Variance Request

[GardinerBusinessPark2019.pdf](#)

Discuss how to recruit BOH board members

### REPORTS



Nurses Report

Animal Code Enforcer's Report

Sanitarian Report-Nothing to report

**BOH CLOSING**

PUBLIC COMMENT

ADJOURN



## Park County Board of Health meeting

Tuesday January 8, 2019

City County Complex/West Room

414 E. Callender St.

**Attendance:** BOH Members-Peggy O'Neill, Mary Beebe, Caleb Minnick, Marjorie Shinn, Judy Roy; Animal Control, Bill Berg; County Commissioner, Trish Fievet; Health Dept. Kaleb Pearson; Lead Sanitarian, Dr Reid; Health Officer, Cid Morrison; Public Health Nurse, Julie Anderson; Health Dept. Director, Juanita Bueter; County School Nurse, Dr. Laurel Desnick; Public.

**Call to Order:** 5:30

**Approval of Minutes:** Bill Berg motioned to approve the November 14<sup>th</sup> Special BOH meeting. Caleb Minnick seconded the motioned. Minutes approved.

**New Business:** Commissioners talked about the City Commissioner position. The board wanted to see if they could see if they could get another City Commissioner to be part of the County BOH.

Dr. Reid gave her resignation. Talked about her future and offered to still help out whenever she was needed.

The board members introduced Dr. Desnick introduced herself to the board. The board all introduced their selves to Dr. Desnick.

Bill Berg moved that they appoint Dr. Desnick in as temporary PC Health Officer pending review by Shannon Piccolo the Deputy County Attorney.

Marj Seconded the motion. Motioned approved by the BOH.

**Sanitarian Report:** Kaleb went over happenings in the Health Department. He gave a report of the 4<sup>th</sup> quarter. He went over the inspections report as well as new businesses opening up in Park County. He went over how many septic permits had been issued for Park County in 2019.

Code Enforcement: Judy talked about all the Farrell cats there is in the community. 4 dog bites and dog attacks.

Nurses Report: Julie Anderson- (Department Director) gave a report on having our web page updated to have information posted correctly for the BOH meetings.

Also talked about things happening in the department. All the flu immunizations and grants the department is working on.

Julie and Bill Berg talked about training for the BOH. Julie is going to contact the state and arrange training for all BOH members.

Cid went over went over all the nurses and what they have going on with their job positions. Also, what is going on with the Emergency Planning and Asthma Program.

Public Comment: None

Adjourn: 6:30

# Cooperative Agreement

Between  
**Montana Department of Public Health and Human Services**  
And  
**Board of Health**

## Identity of Parties and Purpose Statement

This **Cooperative Agreement** (Agreement) is between the **Montana Department of Public Health and Human Services** (DPHHS), and the \_\_\_\_\_ **County Board of Health** (BOH).

The purpose of this Agreement is to establish a payment schedule for maximizing the disbursement of funds to the BOH to support inspections of licensed establishments and to determine which optional programs the BOH will conduct.

A failure to sign this agreement may result in the inability of a local health jurisdiction to maximize funding. Each completed inspection will result in a payment equal to the license fee or the portion of that fee designated in the applicable statute.

## Period of Performance and Termination of this Cooperative Agreement

This Cooperative Agreement is effective from **January 1, 2019 through December 31, 2019** and cannot be terminated except by written notification from one of the parties with a minimum of 30-day notice. This agreement may not be extended.

## Sole Agreement

This is the only Agreement between the parties with respect to payments for inspections for licensed establishments. This Agreement replaces any previous Cooperative Agreement(s) entered into by the parties with respect to payments and responsibilities for inspections of public establishments as defined in this agreement.

## Alterations or Amendments

The parties may amend this Cooperative Agreement by mutual agreement. Any amendment is effective only when in writing and signed by both parties.

## Responsibilities of the parties:

### The BOH agrees:

1. To inspect the following types of licensed establishments within its jurisdiction on an annual basis:
  - a) Inspections required to be performed by local health jurisdictions
    - i. Retail Food Establishments

- ii. Wholesale Food Establishments
- iii. Trailer Courts & Campgrounds
- iv. Public Accommodation (see 2a for exceptions)

b) The BOH agrees to conduct the following activities (please check all that apply):

i. Pools, Spas and Other Water Feature Inspections

- Yes
- No

ii. Body Art Establishment Inspections

- Yes
- No

iii. Body Art Establishment Plan Review

- Yes
- No

iv. Peer to Peer Inspector Training (see Appendix B and Table 3)

- Yes
- No

c) If the BOH chooses not to perform inspections of pools, spas, and other water features, and body art facilities, they will be conducted by the Department or its designee. A designee may include a neighboring county under contract with the Department.

d) If the BOH opts out of Pool and Body Art inspections, the BOH gives DPHHS the authority to sign Pool, Spa, and Body Art licenses for the county.

e) If the BOH opts into Peer to Peer Retail Food Inspector Training, they agree to have Trainers host a trainee, travel to the trainee's county, or a combination of the two, to perform routine inspections of retail food establishments (See Appendix B and Table 3). Only DPHHS-standardized or FDA-standardized inspectors may provide the peer to peer inspections. Opting into this program means that you are only obligated to assist counties as time allows. It does not mean that you are expected to prioritize neighboring county trainings over your own.

2. To inspect public sleeping accommodations within its jurisdiction as follows:

- a) Inspect each hotel, motel, rooming house/boarding house/hostel before initial license validation, upon complaint, and routinely inspect at least once annually;
- b) Inspect each bed & breakfast and tourist/vacation home/condominium before initial license validation and upon complaint;
- c) Complete follow-up inspections as determined necessary by the sanitarian; and
- d) Make a reasonable effort to license all operating establishments, including tourist homes.

3. Inspections of licensed establishments must be performed by the local health

officer, sanitarian, or sanitarian-in-training;

4. To enter inspection dates into the Department's database, within two weeks after the end of each quarter;
5. A minimum of one person in the County will obtain access to the Department's licensing database, receive training, and enter the date and name of person performing each inspection;
6. On a minimum of a quarterly basis, to notify the Department of any status changes to establishment licenses (i.e. out of business; change of ownership);
7. To provide copies of inspection reports to the Department for auditing purposes, upon request;
8. To notify the Department when a sanitarian or the BOH takes enforcement action that may impact a license; and
9. To be eligible for payment from the Local Board Inspection Fund (LBIF), the County must maintain a functioning local board of health as required by Title 50 of the Montana Code Annotated.

**The Department agrees:**

1. To pay the percentage required by statute of each licensing fee received by the Department into a Local Board Inspection Fund. Fees paid into the fund will be collected from licensees of retail food establishments, wholesale food establishments, public accommodations, trailer courts and campgrounds, and, if applicable, body art establishments (see Table 2), pools, spas, and other water features;
2. To pay the BOH the license fee or fees associated with an establishment from the local board inspection fund, so long as the licensed establishment is inspected or reported as permanently closed and the license fee or fees have been paid by the establishment;
3. If the BOH inspects licensed establishments in program categories covered by this agreement before the end of the licensure year, payment from the Local Board Inspection Fund will be made at the rates according to statute using the payment schedule in Table 1. Payment rules to be applied to the percentages can be found in Appendix A;
4. To provide copies of plan review correspondence to the county sanitarian;
5. The amount available from the local board inspection fund is solely dependent upon fees paid by licensed establishments within the relevant jurisdiction. The percentage paid to the BOH under the schedule is intended to be a percentage of the actual

amount available in that fund based on amounts paid in from licensees. Under no circumstances will the Department be obligated to pay an amount larger than has been paid into the Local Board Inspection Fund. Payment is also dependent on statutory authority available to the State to make payments from the Local Board Inspection Fund;

6. To provide training, education, technical assistance and information to staff of local board of health;
7. To maintain a record of inspections submitted by the staff of the local board of health as required in rule; and
8. To provide analytical support through the Laboratory Services Bureau to the BOH's environmental health program regarding food safety. When necessary, support to environmental health programs may include food and environmental sampling for *Salmonella*, *Listeria*, and Shiga-toxin producing *E.coli*, along with clinical (human) testing for the analytes listed in the [public health laboratory manual](#).

The laboratory maintains and provides sample collection kits and technical support when food or water samples need to be collected and tested for contamination. This includes food sampling kits and drinking water emergency sampling supplies. Examples include assisting with *Listeria* swabbing or collecting and shipping samples of food for *Salmonella* or *E.coli* analysis.

The Laboratory Services Bureau is certified by Region 8 of the EPA and can provide water analysis for pesticides, herbicides, volatile organics, industrial chemicals, nutrients, enteric bacteria, oxygen demand, metals, mercury, as well as lead in paint and dust wipes. The laboratory not only tests drinking water, but also wastewater, groundwater, sediment, solid wastes, and plant and fish tissues.

In an outbreak or emergency where the Department cannot provide laboratory support through the Laboratory Services Bureau, it will work closely with relevant regulatory agencies and their laboratories including the CDC, FDA, and USDA.

**Table 1: Payment Schedule- Applies to Retail Food Establishments; Wholesale Food Establishments; Public Accommodations (except Tourist Homes and Bed & Breakfasts \*see note) Trailer Courts/Campgrounds; Body Art Establishments; Pools, Spas and Other Water Features (if applicable):**

Percent of Licensed Establishments Inspected by the County during the licensure year	LBIF Disbursement by Percentage
90% -100%	100% (of paid licenses)
< 90%	1 Payment per Paid License per Inspection



\* Note: All license fees for Tourist Homes and Bed & Breakfast will be paid annually to the county and are not subject to Table 1.

**Table 2: License fees reimbursed to counties performing inspections of Body Art Establishments:**

License type	License fee	Reimbursement per inspection
Tattooing	\$135	\$121.50 (90%)
Body Piercing	\$135	\$121.50 (90%)
Ear lobe piercing only	\$75	\$67.50 (90%)

**Table 3: Peer to Peer Retail Food Inspector training:** Counties will be reimbursed for mileage, meals and lodging for their employees who may be either trainers or trainees and travel outside of their home counties for the purpose of peer to peer training. Counties who host a trainee will also be given an additional \$50 per training inspection. Please note that opting into this portion of the cooperative agreement does not obligate you to provide this service. Peer to peer trainings will only be done when both counties have time (See Appendix B).

Lodging*	State Rate (Approx \$93/Night)
Meals	\$23.00 Per day
Mileage	\$0.262 Per mile
Additional Inspection Reimbursement	\$50.00 Per Inspection

\* Note: Lodging will be reimbursed at the state rate unless preauthorization is granted by DPHHS; every attempt should be made to obtain state rates.

**Both parties agree that:**

1. The responsibilities of the parties are governed by the Montana Code Annotated and the Administrative Rules of Montana and nothing in this agreement is intended to contradict or supplant relevant provisions of the laws of Montana; and
2. The following process is to be used in the event of a disagreement between the BOH and the Food & Consumer Safety Section (FCSS) about the terms of this agreement.
  - a. If the BOH is unable to resolve their disagreement with FCSS, a written notification from the BOH must be provided to the Communicable Disease Control and Prevention Bureau Chief. The BOH shall provide in writing specific details about the remaining issues that are in dispute. The Bureau Chief shall attempt to resolve the dispute. If unable to resolve the dispute, the reasons for the department's position on the issues in dispute must be presented to the BOH in writing.
  - b. If resolution of the disagreement is not obtained, the BOH may request a review and written determination to be made by the Public Health and Safety Division

Administrator.

- c. The decision of the Division Administrator may be appealed to the Department Director, whose decision is final.

**Liaisons:**

These persons serve as the primary contacts between the parties regarding the performance of the task order.

- 1. Ed Evanson is the liaison for DPHHS (phone: 406-444-5309)
- 2. Liaison for the BOH: \_\_\_\_\_  
*(Print name and title)*

**For: Montana Department of Public Health and Human Services**

Signature: \_\_\_\_\_  
Printed name and title: Todd Harwell, Division Administrator  
Date: \_\_\_\_\_

**For: \_\_\_\_\_ County Board of Health**

Signature: \_\_\_\_\_  
Printed name and title: \_\_\_\_\_  
Date: \_\_\_\_\_

Please mail signed Agreement to: Ed Evanson, Supervisor  
DPHHS-Food & Consumer Safety Section  
P.O. Box 202951  
Helena MT 59620-2951

Appendix A – Payment Rules for Licensed Establishments

The following scenarios describe how credit for an inspection will be applied to the percentage described in Table 1 of this Agreement. Any scenarios not covered by these business rules will be evaluated on a case by case basis.

<b>Scenario</b>	<b>License Fee(s) paid</b>	<b>Inspection(s) completed</b>	<b>Credit(s) toward percentage</b>
1	License fee paid	1 or more inspection(s) completed	1 credit toward percentage
2	License fee paid	0 inspections completed	0 credit toward percentage
3	License fee paid	0 inspection completed due to business closing	1 credit toward percentage
4	0 fees paid	0 inspections completed	0 credit toward percentage
5	2 license fees paid on 1 establishment due to change in ownership	2 inspections performed because of change in ownership	2 credits toward percentage
6	2 license fees paid on 1 establishment due to change in ownership	1 inspection performed	1 credit toward percentage
7	License fee paid for pool or spa operated throughout the year	1 full facility and 1 critical point inspection performed	1 credit toward percentage
8	License fee paid for seasonal pool or spa	1 full facility inspection performed	1 credit toward percentage

## Appendix B:

### Peer to Peer Inspector Training

One of the tasks of Food and Consumer Safety is to provide or facilitate training to ensure consistent, high quality inspections across the state. Joint inspections with experienced county inspectors are one way to accomplish that. To minimize the impact to county budgets, Food and Consumer Safety will fund peer to peer inspection training up to \$10,000 per year (allocated total for the entire state).

These funds are available on a first-come, first-serve basis for counties with a new inspector, or an inspector needing additional training in a certain type of inspection or inspection components outside of previous training. This may be someone who is a Sanitarian in Training (SIT) or is a sanitarian that is moving into inspection types with which they have limited experience with.

Training will be provided at the discretion of the counties. If a county opts into this program but time and/or resources change the county is not obligated to host training or send a trainer to a neighboring county.

#### Minimum requirements for trainers:

1. Currently employed by a county and determined by FCS to be qualified to provide training;

#### The following applies to food inspections:

- a. Trainers must be a FDA or State Standard
- b. Minimum Facility Requirements
  1. Risk Level 2, 3, or 4
- c. Inspections by Risk Level (see Annex 5, Table 1 of the 2013 Food Code)
  1. Risk Level 2 - no more than 3 inspections
  2. Risk Level 3 or 4 - up to 12 inspections
  3. If possible, facilities should include
    - a. retail processing,
    - b. HACCP, and
    - c. Molluscan shellfish sales or service
  4. FCS currently does not have plans to approve more than 15 peer to peer inspections at a time.

#### Reimbursement:

1. Trainers may host the trainee and/or travel to the trainee's county to perform inspections.
2. Reimbursement to the county for mileage, meals and lodging for either trainers or trainees who travel outside of their jurisdiction.
3. An additional \$50 per inspection for a county hosting a trainee, due to the additional amount of time required for training.

Projected Reimbursement per training:

Lodging	State Rate (Currently \$93/night)	x5 nights	\$465.00
Meals	\$23.00/day	x5 days	\$115.00
Mileage	\$0.262/mile	x400 miles	<u>\$104.80</u>
		Total travel	\$684.80
Additional inspection reimbursement			
	\$50.00/inspection	x15	<u>\$750.00</u>
Total per sanitarian trained			\$1434.80

All peer to peer training must be pre-approved by FCS. To receive pre-approval, send the section the following information:

- 1) The training inspector
- 2) The trainee
- 3) The establishments to be visited with the risk categories
- 4) The number of days and nights spent training
- 5) The projected lodging cost
- 6) The projected mileage cost



## PARK COUNTY POSITION DESCRIPTION

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### I. POSITION IDENTIFICATION

Work Unit: Health Department  
 Supervisor: Park County Commission, Board of Health

**Current Classification:**

**Pay Grade: 20 salary scale \$45.00 - \$65.00**

**Title: Health Officer - – must be a licensed physician OR hold a MA in Public Health per Title 50, MCA**

Non Exempt part-time occasional hours for Health issues approx. 4 per week standard  
 Subordinates: Health department staff and any new positions assigned.

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### II. ASSIGNED DUTIES & TASKS:

Position overview:

This position is responsible for Park County’s compliance of Title 50 Health and Safety rules and regulations. They work with the Health Department Director to ensure excellent Health and Safety conditions to the residents and visitors of Park County including its Environmental Health and Human Services arenas. The nature of the work performed requires that an employee in this class establish and maintain close cooperative working relationships with the Board of Health, the Health Department Director, health department team, public officials, collaborating organizations and agencies, compliance agencies, other county employees and the general public.

All duties below are essential functions unless otherwise indicated. Duties of the position are not all inclusive and subject to change. See addendum for examples of essential duties.

PUBLIC HEALTH DUTIES:

- To implement and administer policies developed by the Park County Board of Health along with the Health Department Director.
- To function as the lead public health official for Park County, with the powers and duties as outlined in MCA Title 50;
  - To make inspections for conditions of public health importance and issue written orders for compliance or for correction, destruction or removal of the condition.
  - To take steps to limit contact between people in order to protect the public health from imminent threats, including but not limited to ordering the closure of buildings or facilities where people congregate and canceling events.
  - To report communicable diseases as required by the rule.
  - To establish and maintain quarantine and isolation measures as adopted by the local board of Health.

- To pursue action with the appropriate court of this chapter or rules adopted by the local Board of Health under this chapter are violate.
- To lead program development and strategic planning;
- To lead development and implementation of operations plan and quality improvement program;
- To direct the Health Department Director who supervises and evaluates Public Health department team;
  - To ensure that the fiscal integrity of the Public Health department is maintained, that adequate funds are available to support the mission and that the funds are properly allocated;
  - To prepare and monitor implementation of annual budget;
  - To assure adherence to Federal and State laws and rules; assures adherence to County administrative policies in accordance with agreement between Public Health’s Governing Board and County;
  - To participate in partnerships with local health community and local governments to identify public health delivery issues;
  - To develop and maintain working relationships with elected officials from local, state and federal governments;
- To represent Public Health to the community through media and public and private contacts; attends conferences and meetings;
- To prepare and deliver presentations; prepares and implements contracts, reports, grants and written communications;
- To provide support, direction and information to the Park County Public Health Board;
- To advocate with other community and government organization on public health issues;

OTHER DUTIES AS ASSIGNED:

Performs other duties as assigned by the Board of Health and County Commission. This includes special projects and a variety of other functions as determined.

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III. KNOWLEDGE AND SKILLS

Knowledge of public health and/or human services program principals/standards; knowledge of budget development and management; knowledge of clinic health and safety regulations and procedures; knowledge of grants administration; knowledge of long and short-range program development; knowledge of local government policy and decision-making process; knowledge of project management and community health and human services resources principles and practices; knowledge of team leadership motivation; ability to establish and maintain effective working relationships. Knowledge of HIPPA regulations and practices. Ability to communicate and negotiate effectively among diverse interests and groups. Comfortable with public speaking. Ability to work after hours and on-call, longer shifts, weekends, etc. to meet the operational needs of the department. Computer skills such as; email, word processing, excel, power point – to establish databases, spreadsheets, presentations and to complete research of health related issues.

Education and Experience

A currently licensed Physician or has a Master’s Degree in Public Health or education and experience as determined to be equal. Minimum of three years of professional level experience in leading community initiatives and/or facilitating teams focused on public health issues, strongly desired. Experience in performance management, public health accreditation, quality improvement, strategic planning, community health improvement planning, communicable disease follow-up, health hazard and food/water-borne outbreak investigation is preferred. Effective public speaking skills, highly proficient personal computer software applications skills, willingness and ability to attend evening meetings, travel out of town and attend workshops, conference and meetings during work and non-work hours.



Certification, Licenses, etc.

Valid Driver's license.

Complete emergency preparedness training and provide certification of completion within 120 days of hire.

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IV. ACCOUNTABILITY

This position makes complex decisions regarding the public health team goals and objectives. Oversees the Health Department Director to ensure efficient and effective performance of the administrative and technical operations of the department ranging in skill level from clerical to professionals. Work in conformance with generally prescribed policies, plans and approved budgets. The Department is also frequently asked to undertake, manage and complete a variety of special projects. While work is sometimes covered by established guidelines and policy manuals, more frequently this position is expected to provide leadership and accountability in projects of first impression and tasks for which there are no well-defined precedents and that require a high level of independent judgment and integrity.

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V. CONFIDENTIALITY

The position requires handling non-public confidential information. The person in the position acknowledges the confidential nature of non-public information. Consistent with applicable policy and guidelines, this position will respect and safeguard privacy and the confidential nature of information in accordance with Montana state law, without limiting the general nature of this commitment. The person in the position hereby acknowledges that the person understands that in this context, confidential information is considered all non-public information that can be personally associated with an individual.

If in the course of executing job responsibilities, the person in the position accidentally accesses information that others might consider inappropriate for this position to access, the person in the position will notify the person's supervisors of the date and time of the access. If a question arises at a later time, it will be understood that the access was accidental. The person in the position will not disseminate any such information.

By signing this Position Description, the undersigned hereby acknowledges reading and understanding this section regarding confidentiality and agrees to abide by the terms and conditions set forth herein. Violation of confidentiality may warrant disciplinary action, up to and including, suspension, demotion or termination of employment.

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VI. INDEPENDENCE OF ACTION

This position plans and carries out assignments independently, and uses judgment and initiative to solve problems. Operates with appreciable latitude for independent action and decisions commensurate with demonstrated ability, scope of authority in matters requiring deviation from established policies and in matters having major impact or long-range effects on the department. Work objectives and priorities are defined along with the supervision of the Board of Health and the County Commission but extensive leeway is granted for the exercise of independent judgment and initiative.

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VII. PERSONAL CONTACTS:

This position has contacts with the public, county and city personnel, elected officials, department heads, State, Federal and City Officials, Law Enforcement Agencies and various community organizations. The person in this position interprets, clarifies or explains departmental information in order to be responsive to questions and inquiries.

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VIII. WORK ENVIRONMENT/PHYSICAL DEMANDS

Work is generally conducted in both an office and field environment. Due to the need for all Health Department personnel to respond to public health emergencies, the employee must be assessed for their ability to meet the physical demands of performing the following activities:

Physical Demands:

- Must be able to be fitted and wear a NIOSH 95 mask.
- Engage in the following movements: sitting, standing, often times for long periods, walking on all types of terrain, maintaining balance, climbing stairs and inclines, kneeling, bending, stooping, crouching, reaching, pushing, pulling, grasping, feeling, writing, repetitive motions, twisting, requires a sense of touch, finger dexterity, ability to grip with hands and fingers, to lift and carry up to 30 pounds.
- Exert up to 25 pounds of force occasionally, and/or a negligible amount of force constantly to move objects.
- Hearing ability sufficient enough to communicate with others effectively in person and over the phone.
- Visual ability must be sufficient enough to accurately read typewritten documents and computer screens and safely drive a vehicle.

Work environment:

- General office setting in the department facility, as well as various community sites.
- Work performed in the community is sometimes subject to conditions that range from inclement weather to dangerous conditions, such as snow/ice, cold, heat, noise, wetness/humidity, vibration, sudden temperature changes, and poor illumination at the job site or due to travel on the job. Travel to and from field locations may subject worker to increased risk of driving hazards. Community locations may subject worker to communicable diseases, insects and other disease vectors, toxins, hazardous materials, chemicals and animals.
- In all settings, the employee may occasionally need to relate to members of the public who exhibit challenging, atypical or hostile behaviors and/or communication.
- May be required to wear and/or use personal protective equipment such as gloves, masks, eye protection, etc. and other work activities.
- Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

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IX. APPROVAL AND DATE

Commission:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Health Officer:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Human Resource Manager:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Employee:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_



PARK COUNTY  
ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
406-222-4145 parkcounty.org

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April 2<sup>nd</sup>, 2019

To: Park County Board of Health

**RE: Variance Application for Drainfield Setback to 100-year Floodplain  
Rasmuson Property – 383 Flathead Creek Rd, Wilsal**

Dear Park County Board of Health,

I have reviewed the variance application for the Rasmuson property in Wilsal for the project being engineered by Gary Fox of Allied engineering. I have visited the site and found the data provided is of sound quality and accuracy. In my opinion, I would recommend approving the variance.

There appears to be an existing drainfield on the site that was serving the old farmhouse. However, this drainfield appears to never have been permitted, as I have found no records of it at my office. Having no records, there is no ideal way to discover what has been installed besides digging it up. The current owner wishes to abandon the existing system and install a new permitted one. However, the site is constrained due to Flathead Creek running through the home-site area, and the floodplain associated with it. Allied engineering has proposed installing the new drainfield on a bench well above the creekbed. They have submitted a Letter of Map Amendment (LOMA) to FEMA which was approved and subsequently removed part of the lot from the mapped floodplain. Part of the area that was removed from the floodplain included the area where the drainfield is proposed, however the required 100 ft setback to the floodplain cannot be met.

Please review the attached documents that I believe meet all the requirements of ARM 17.36.922 and forward any questions you may have to myself. I unfortunately will not be able to attend the meeting on April 9<sup>th</sup> as I will be at a training in Butte that I had previously agreed to attend. Gary Fox will be in attendance to field any questions that may arise during the meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Kaleb Pearson", written over a white background.

Kaleb Pearson, MS, REHS/RS  
Lead Sanitarian, Park County Environmental Health

cc: Gary Fox of Allied Engineering, file

In my opinion, if Flathead Creek were to experience high Flood waters, there is minimal risk involved in regards to water over-topping the proposed drainfield.

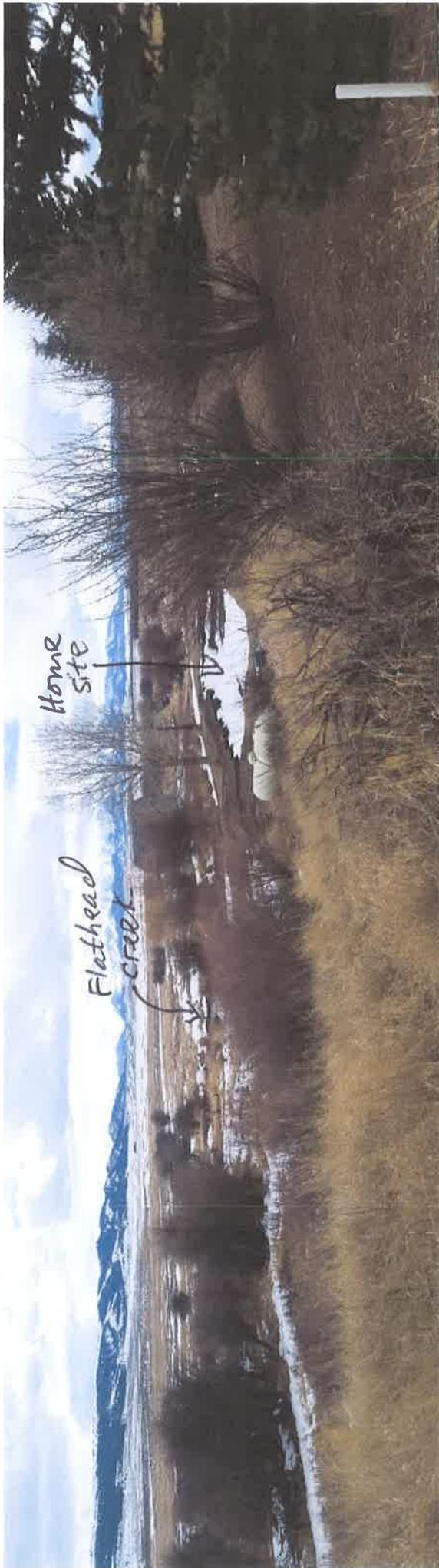
- K.P.  
4/2/19



Approx Topography of region sloping away from DF location.



View From Drainfield Location



Approx. Location  
of drainfield







March 29, 2019

Park County Health Department  
c/o: Kaleb Pearson, M.S., REHS/R.S.  
414 E. Callendar St.  
Livingston, MT 59047

**RE: Variance Application for Drainfield Setback to 100-Year Floodplain  
Rasmuson Property – 383 Flathead Creek Rd.  
Park County, Montana**

Dear Mr. Pearson:

Please find the enclosed our variance application for the above referenced project. The project site is located on Flathead Creek Road (Highway 86) approximately 3 miles west of Wilsall. A home was built at the site around the year 2000 and this home utilized a pressure-dosed subsurface drainfield located northeast of the home. The owner plans to rebuild the home in the same footprint as the original home. As part of the improvements, the owner would like to permit a new wastewater treatment system and drainfield.

The effective FEMA FIRM map (Community-Panel #30067C0300C) for the area shows the project and drainfield sites to be within flood Zone A. The floodplain mapping appears to be rough as evidenced by the floodplain extending north of Highway 86 which is about 25 feet higher than the low-lying area south of Flathead Creek.

A FEMA Letter of Map Amendment (LOMA) application was recently submitted and approved by FEMA to remove a portion of the subject property (including the home and drainfield sites) from the floodplain mapping. A base flood elevation (BFE) just upstream of the drainfield site was found to be about 15 feet lower than the topographic bench where the proposed drainfield is located.

Due to site constraints, the drainfield cannot maintain the 100-foot setback to the floodplain boundary per the approved LOMA. For this reason, we are submitting this variance application. A response to the Local Variance Criteria found in ARM 17.36.922 is attached along with supplemental information and the proposed site plan for the wastewater treatment system.

If you have any questions or comments, please contact the undersigned.

Thank you.

**Allied Engineering Services, Inc.**

---

Gary Fox, PE  
Civil Engineer

Enc: Variance Criteria Form – Responses  
Site Plan  
Supplemental Information

cc: Judy Rasmuson (Owner)  
Miller-Roodell Architects

## Variance Criteria Form – Responses

Allied Engineering Service, Inc. has addressed the criteria outlined in ARM 17.36.922 Local Variances. To specifically address each item, we have provided each criterion below, with our responses in **bold**.

### 17.36.922 LOCAL VARIANCES

- (1) *As provided in this rule, a local board of health, as defined in 50-2-101, MCA, may grant variances from the requirements in this subchapter and in Department Circular DEQ-4, except for requirements established by statute*

**The home site is located on an elevated bench, above the channel bottom and out of the floodplain of Flathead Creek per the approved FEMA Letter of Map Amendment (LOMA). The drainfield site is located on a separate elevated bench which is about 11 feet higher than the home site. Although the drainfield area is on an elevated bench, the drainfield happens to be less than 100 ft to the 100-year floodplain boundary, and a variance is needed. The proposed absorption area is the most appropriate location due to its position in relation to the 100-year floodplain and adjacent base flood elevations.**

**The proposed pressure-dosed drainfield location maximizes the horizontal distance to the 100-year floodplain of Flathead Creek and maximizes the vertical separation between the drainfield infiltrative surface and the base flood elevation.**

- (2) *The local board of health may grant a variance from a requirement only if it finds that all the following criteria are met:*

(2)(a) *Granting of the variance will not:*

(2)(a)(i) *contaminate any actual or potential drinking water supply;*

**A proposed 100-ft source specific mixing zone accompanied by a non-degradation analysis shows both phosphorous and nitrates are acceptable for the proposed 2-bedroom living unit, and the degradation will be non-significant per state standards. The direction of groundwater flow, as calculated by the onsite well and test pit groundwater levels, shows the potential mixing zone of the proposed wastewater treatment system as moving south—away from the proposed on-site domestic water supply well. The nearest well is located approximately 160 feet west (upstream) of the proposed drainfield location. The proposed absorption system area satisfies minimum setbacks from the proposed on-site water supply well.**

(2)(a)(ii) *cause a public health hazard as a result of access to insects, rodents, or other possible carriers of disease to humans;*

**The proposed wastewater treatment system is a standard wastewater absorption system that will consist of a septic tank, a dose tank, and a pressure-dosed drainfield. All components of the proposed wastewater treatment system will be installed in accordance with Circular DEQ-4 and Park County**

**Regulations. The proposed wastewater treatment system is not anticipated to cause a health hazard due to access to insects, rodents, or other possible carriers of disease to humans.**

*(2)(a)(ii) cause a public health hazard being accessible to persons or animals;*

**All components of the proposed wastewater treatment system will be installed in accordance with Circular DEQ-4 and Park County Regulations. The proposed wastewater treatment system is not anticipated to cause a health hazard due to accessibility to persons or animals. For this application, we anticipate fiberglass risers and lids, and we have indicated that safety grates shall be installed inside all septic tank access risers.**

*(2)(a)(iv) violate any law or regulation governing water pollution or wastewater treatment and disposal, including the rules contained in this subchapter except for the rule that the variance is requested from;*

**This project does not propose an experimental system. All components of the proposed wastewater treatment system will be installed in accordance with Circular DEQ-4 and Park County Regulations. The proposed improvements are located on an elevated bench, outside and above the 100-year floodplain.**

*(2)(a)(v) pollute or contaminate state waters, in violation of 75-5-605, MCA;*

**A proposed 100-ft source specific mixing zone accompanied by a non-degradation analysis shows both phosphorous and nitrate concentrations are acceptable and will not be exceeded with the proposed on-site wastewater system. Also, the trigger value for proximity to the nearest surface water (Flathead Creek), is also acceptable, per state standards.**

*(2)(a)(vi) degrade state waters unless authorized pursuant to 75-5-303, MCA;*

**As noted in (2)(a)(v), above, the non-degradation analysis shows both phosphorous and nitrates are acceptable and will not be exceeded with the proposed on-site wastewater system. Also, the trigger value for proximity to the nearest surface water (Flathead Creek), is also acceptable, per state standards.**

*(2)(a)(vii) cause a nuisance due to odor, unsightly appearance, or other aesthetic consideration;*

**All components of the proposed wastewater treatment system will be installed in accordance with Circular DEQ-4 and Park County Regulations. The proposed wastewater treatment system will be planted with shallow rooted vegetation that will blend in with existing vegetation, and maintained appropriately, including removal of any noxious weeds.**

*(2)(b) compliance with the requirement from which the variance is requested would result in undue hardship to the applicant;*

**A home was built at the project site around the year 2000 and has been in use ever since. As part of a recent plan to rebuild the home (2-bedrooms), the owner wishes to permit a new wastewater system**

**and subsurface pressure-dosed drainfield. The proposed on-site wastewater system will offer a safe and convenient way for wastewater disposal.**

*(2)(c) the variance is necessary to address extraordinary conditions that the applicant could not reasonably have prevented;*

**The drainfield bench is a naturally elevated topographic feature which rises well above Flathead Creek and the adjacent floodplain. The toe of the bench slope, which is essentially the edge of the floodplain is about 65 feet south of the drainfield. The floodplain boundary per the FEMA LOMA was set at a conservative location which is only about 45 feet from the drainfield. The drainfield is bounded to the north by an offset from the State Highway easement. Without a variance to the floodplain setback, there would not be any potential drainfield sites upstream or downstream from the home.**

*(2)(d) no alternatives that comply with the requirement are reasonably feasible;*

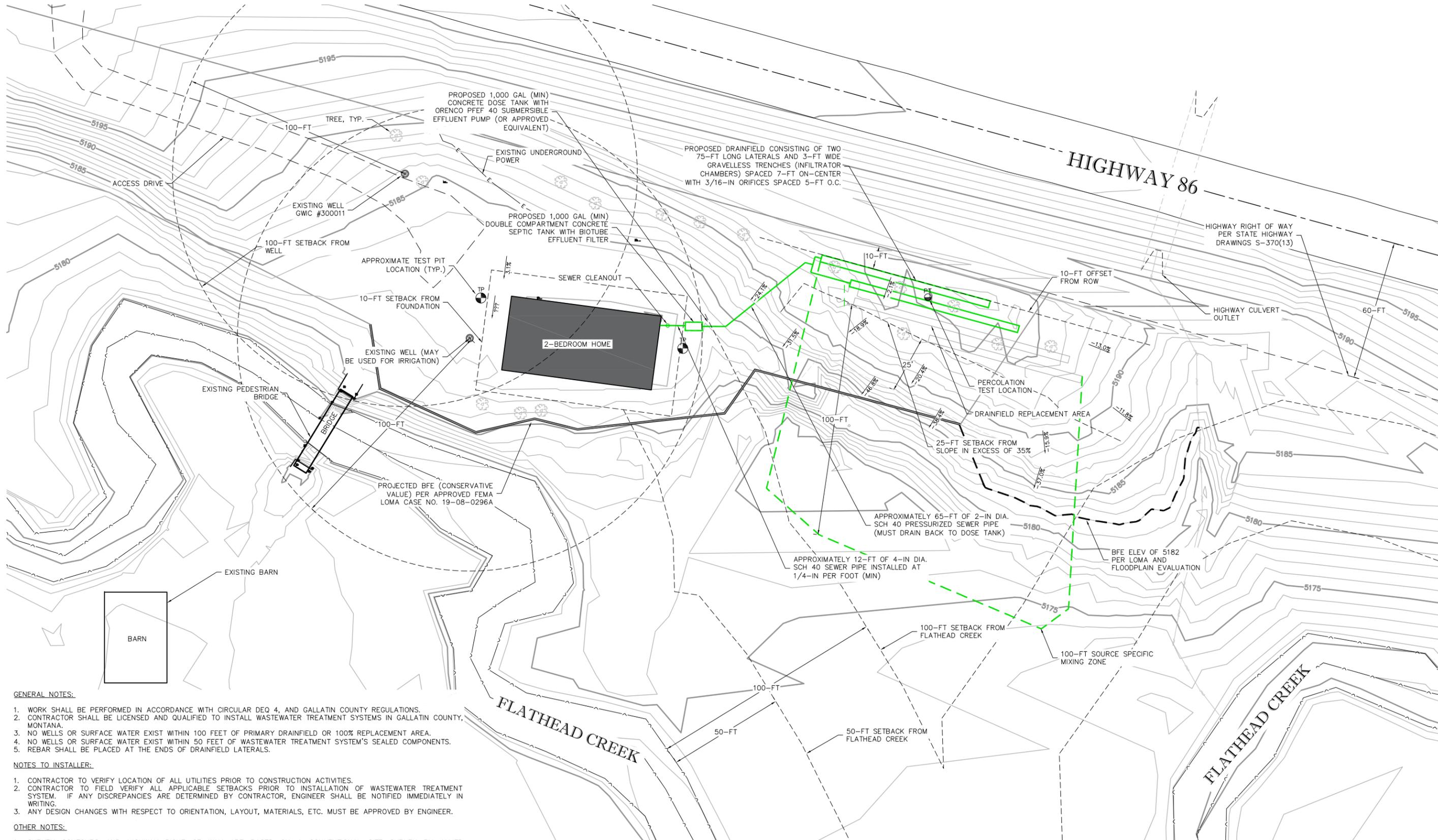
**Due to the project site's location between Highway 86 and Flathead Creek, there are limited areas available for wastewater system components. Moving the drainfield east or west does not maintain the required 100-foot setback from surface water (Flathead Creek). The proposed drainfield bench site is located adjacent to a bend in Flathead Creek which is the only such bend on the entire property where the 100-foot setback from surface water can be maintained. Boring underneath Flathead Creek with a forcemain is not considered a viable option because the land south of Flathead Creek is low-lying area which is within the floodplain. The proposed drainfield bench is not within the floodplain (per the approved LOMA) because it is 11+ feet higher in elevation than the adjacent creek. Boring underneath Highway 86 is also not considered a viable option due to permitting, utility conflicts, cost, and logistics associated with the State highway. In our opinion, the proposed drainfield location is the only viable area.**

*(2)(e) the variance requested is not more than the minimum needed to address the extraordinary conditions;*

**The proposed improvements are located on an elevated bench, outside and above the 100-year floodplain. All setbacks have been maintained, except that we are less than the 100-year floodplain boundary. Regulations specifically allow for a variance from the 100 ft setback from a 100-year floodplain, such that the bottom of the absorption area is a minimum of 2 ft above the 100-year base flood elevation, which is the case for this project.**

*(3) The local board of health's decision regarding a variance of a requirement in this subchapter or in Department Circular DEQ-4 may be appealed to the department pursuant to ARM 17.36.924;*

**Acknowledged.**



**GENERAL NOTES:**

1. WORK SHALL BE PERFORMED IN ACCORDANCE WITH CIRCULAR DEQ 4, AND GALLATIN COUNTY REGULATIONS.
2. CONTRACTOR SHALL BE LICENSED AND QUALIFIED TO INSTALL WASTEWATER TREATMENT SYSTEMS IN GALLATIN COUNTY, MONTANA.
3. NO WELLS OR SURFACE WATER EXIST WITHIN 100 FEET OF PRIMARY DRAINFIELD OR 100% REPLACEMENT AREA.
4. NO WELLS OR SURFACE WATER EXIST WITHIN 50 FEET OF WASTEWATER TREATMENT SYSTEM'S SEALED COMPONENTS.
5. REBAR SHALL BE PLACED AT THE ENDS OF DRAINFIELD LATERALS.

**NOTES TO INSTALLER:**

1. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO FIELD VERIFY ALL APPLICABLE SETBACKS PRIOR TO INSTALLATION OF WASTEWATER TREATMENT SYSTEM. IF ANY DISCREPANCIES ARE DETERMINED BY CONTRACTOR, ENGINEER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
3. ANY DESIGN CHANGES WITH RESPECT TO ORIENTATION, LAYOUT, MATERIALS, ETC. MUST BE APPROVED BY ENGINEER.

**OTHER NOTES:**

1. SURVEY CONTOURS AND HIGHWAY RIGHT OF WAY ARE BASED ON A CONVENTIONAL SITE SURVEY BY ALLIED ENGINEERING SERVICES, INC. SUPPLEMENTAL GROUND ELEVATIONS ARE FROM AN AERIAL DRONE SURVEY OF THE SITE.
2. PER A MEASUREMENT OF GROUNDWATER IN TEST PITS AND FLATHEAD CREEK, FLATHEAD CREEK IS A GAINING STREAM IN THIS SECTION AND GROUNDWATER FLOW IS TOWARD THE CREEK.

NO.	REVISIONS	DRAWN BY	DATE

0 20 40 60  
SCALE (FEET)

PROJECT ENGINEER: CRM      DRAWN BY: GDF  
DESIGNED BY: GDF            REVIEWED BY:

**RASMUSON RESIDENCE  
WASTEWATER TREATMENT SYSTEM LAYOUT  
PARK COUNTY, MONTANA**

32 DISCOVERY DRIVE  
BOZEMAN, MT 59718  
PHONE (406) 582-0221  
FAX (406) 582-5770  
www.alliedengineering.com

**Civil Engineering  
Geotechnical Engineering  
Land Surveying**



PROJECT #: 18-196	SHEET <b>S-1</b>
DATE: 03/26/2019	
RASMUSON	

**GENERAL NOTES:**

1. WORK SHALL BE PERFORMED IN ACCORDANCE WITH CIRCULAR DEQ 4, AND GALLATIN COUNTY REGULATIONS.
2. CONTRACTOR SHALL BE LICENSED AND QUALIFIED TO INSTALL WASTEWATER TREATMENT SYSTEMS IN GALLATIN COUNTY, MONTANA.
3. NO WELLS OR SURFACE WATER EXIST WITHIN 100 FEET OF PRIMARY DRAINFIELD OR 100% REPLACEMENT AREA.
4. NO WELLS OR SURFACE WATER EXIST WITHIN 50 FEET OF WASTEWATER TREATMENT SYSTEM'S SEALED COMPONENTS.
5. SLOPE ACROSS DRAINFIELD WAS DETERMINED TO BE LESS THAN 0.50%
6. REBAR SHALL BE PLACED AT THE ENDS OF DRAINFIELD LATERALS.
7. WE RECOMMEND THE USE OF A HIGH LEVEL ALARM.

**NOTES TO INSTALLER:**

1. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO VERIFY SEWER STUB LOCATIONS AND ALL EXISTING WASTEWATER TREATMENT COMPONENTS PRIOR TO INSTALLATION OF WASTEWATER TREATMENT SYSTEM.
3. CONTRACTOR TO FIELD VERIFY ALL APPLICABLE SETBACKS PRIOR TO INSTALLATION OF WASTEWATER TREATMENT SYSTEM. IF ANY DISCREPANCIES ARE DETERMINED BY CONTRACTOR, ENGINEER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
4. ALL LATERALS ARE TO BE LAID LEVEL.
5. 10 FEET (MIN.) SEPARATION BETWEEN WATER AND SEWER LINES SHALL BE MAINTAINED.
6. ANY DESIGN CHANGES WITH RESPECT TO ORIENTATION, LAYOUT, MATERIALS, ETC. MUST BE APPROVED BY ENGINEER.

\*INSTALL SAFETY GRATES AT ALL SEPTIC TANK/DOSING TANK OPENINGS. CUT TO FIT AROUND EFFLUENT FILTER HANDLE AND PUMP DISCHARGE PIPING (IF NECESSARY).

**ALTERNATE**

\*OWNER MAY INSTALL FIBERGLASS RISERS AND LIDS IN LIEU OF CONCRETE. RISERS AND LIDS (TYPICAL ALL TANKS)

\*PRIOR TO PLACEMENT OF TANKS CONTACT ENGINEER IF TANK DEPTHS ARE ANTICIPATED TO EXCEED 2' BURY DEPTH.

**MDEQ4 7.2.4:**

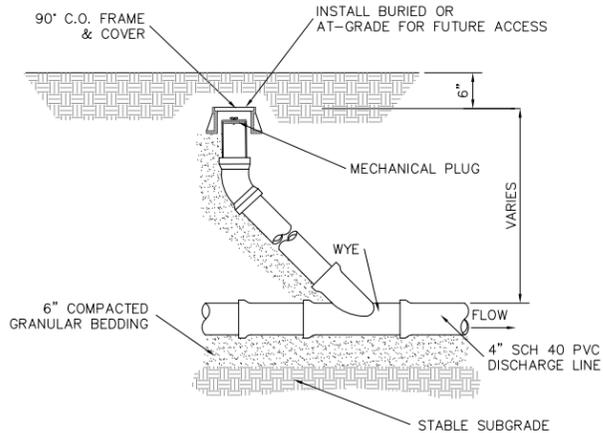
LIQUID CONNECTION BETWEEN COMPARTMENTS SHALL CONSIST OF A SINGLE OPENING COMPLETELY ACROSS THE COMPARTMENT WALL OR TWO OR MORE OPENINGS EQUALLY SPACED ACROSS THE WALL. THE TOTAL AREA OF THE OPENINGS SHALL BE AT LEAST THREE TIMES THE AREA OF THE INLET PIPE.

ALL SEPTIC AND DOSING TANKS MUST BE TESTED IN ACCORDANCE WITH MDEQ4 SECTION 7.3 FOR WATERTIGHTNESS.

MDEQ4 7.3.1: WATER TESTING MUST BE CONDUCTED BY SEALING THE OUTLETS, FILLING THE SEPTIC TANK TO ITS OPERATIONAL LEVEL, AND ALLOWING THE TANK TO STAND FOR AT LEAST 8 HOURS. IF THERE IS A MEASURABLE LOSS (2 INCHES OR MORE), REFILL THE TANK AND LET STAND FOR ANOTHER 8 HOURS. IF THERE IS AGAIN A MEASURABLE LOSS, THE TANK MUST BE REJECTED.

**OR**

MDEQ4 7.3.2: VACUUM TESTING MUST BE CONDUCTED BY SEALING ALL INLETS, OUTLETS, AND ACCESSES, THEN INTRODUCING A VACUUM OF 4 INCHES OF MERCURY. IF THE VACUUM DROPS IN THE FIRST 5 MINUTES IT MUST BE BROUGHT BACK TO 4 INCHES OF MERCURY. IF THE SEPTIC TANK FAILS TO HOLD THE VACUUM AT 5 INCHES OF MERCURY FOR 5 MINUTES, THE TANK MUST BE REJECTED.



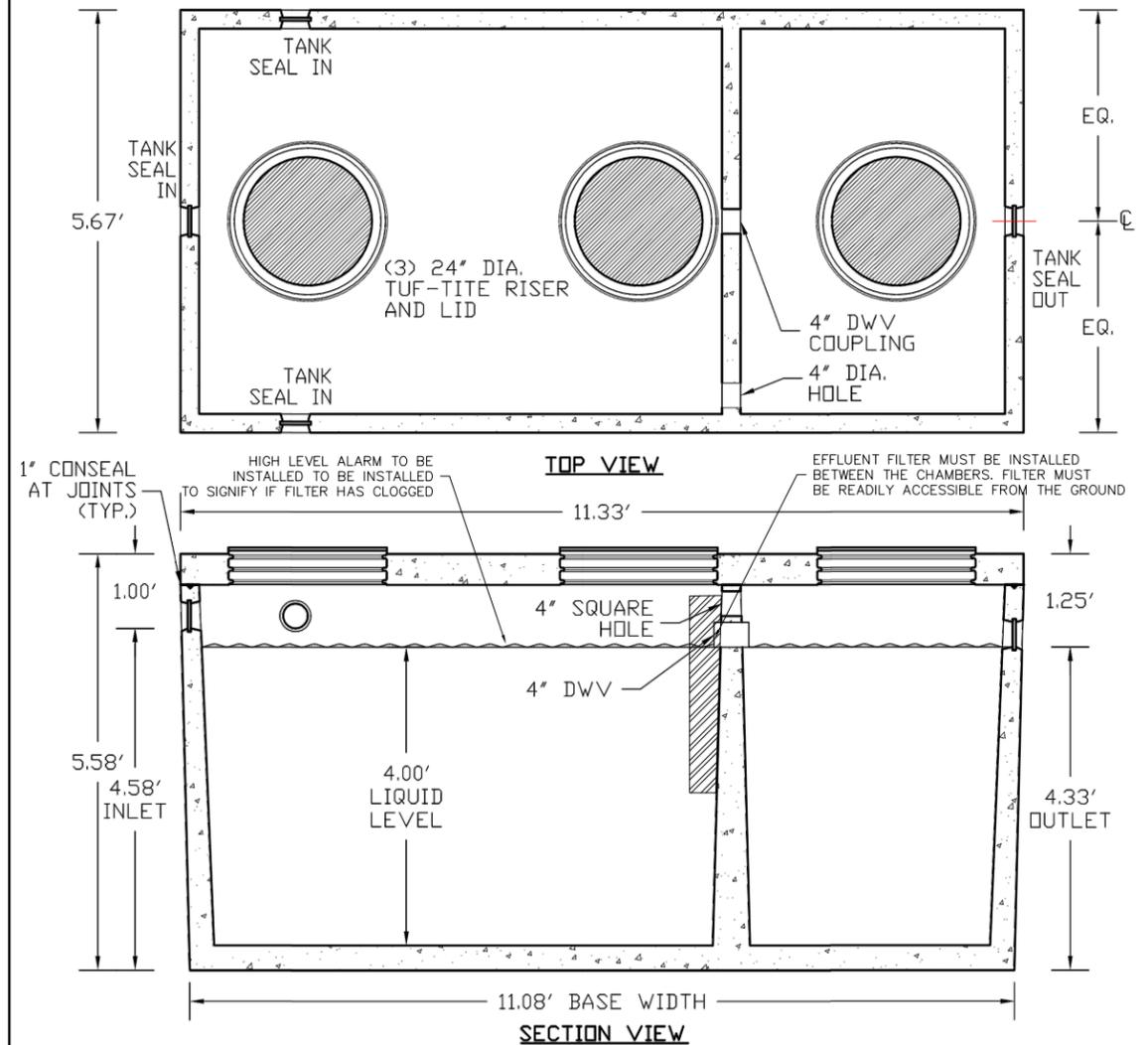
**NOTES:**

1. USE INLAND FOUNDRY MODEL 240 FRAME & COVER IN ALL TRAFFIC AREAS.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48, CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.

**1**  
S-2 **DETAIL**  
**4" CLEANOUT**  
NOT TO SCALE

**ANDERSON**  
PRECAST & SUPPLY INC.  
Montana's Precast Solution  
Ph: (406) 388-2413 • Fx: (406) 388-2436  
80 East Valley Center Road • Bozeman, Montana 59718  
www.andersonprecast.com

CONCRETE IS 5000 PSI @ 28 DAYS. 5% +/- 1% AIR ENTRAINMENT. CEMENT IS TYPE V, WITH MAX C3A OF 8%, PER MT DEQ-4. NORMALLY SET IN ONE PIECE. BOTTOM SEGMENT OF TANK IS POURED MONOLITHICALLY W/TOP SET IN PLACE W/CONSEAL. WEIGHT OF TANK IS APPROXIMATELY 15,000 LBS. REINFORCEMENT: AS PER ENGINEER REQ. MAXIMUM EARTH COVER IS 6' - 0". THIS TANK MUST BE PLACED ON COMPACTED 3/4" ROAD-BASE OR SIMILAR MATERIAL. MINIMUM RELATIVE COMPACTION IS 95%. DO NOT USE FLOWABLE BACKFILL MATERIALS SUCH AS 3/4" WASHED GRAVELS. TANK MUST BE BACKFILLED TO TOP BEFORE WATERTESTING. WALL THICKNESS IS 4" AT BOTTOM AND 3" AT TOP. TOP THICKNESS IS 5" & BASE THICKNESS IS 4".



1000/500 GALLON PUMP STATION NON-TRAFFIC RATED		NTS
PROJECT	ENGINEER	
DRAWING	CONTRACTOR	
<b>COMBO SEPTIC / DOSE PUMP STATION</b> 1,000 GALLON SEPTIC W/ 500 GALLON DOSE N/T		
SPT-100/5001PC		SUBRELEASEREV616

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: CRM	DRAWN BY: GDF
DESIGNED BY: GDF	REVIEWED BY:

**RASMUSON RESIDENCE**  
**DETAILS 1**  
**PARK COUNTY, MONTANA**

32 DISCOVERY DRIVE  
BOZEMAN, MT 59718  
PHONE (406) 582-0221  
FAX (406) 582-5770  
www.alliedengineering.com

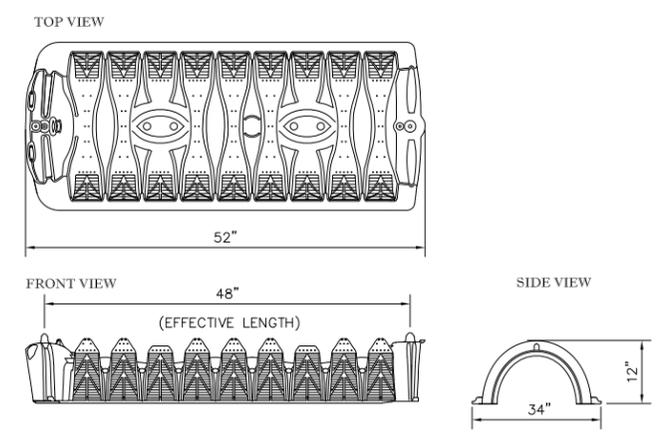
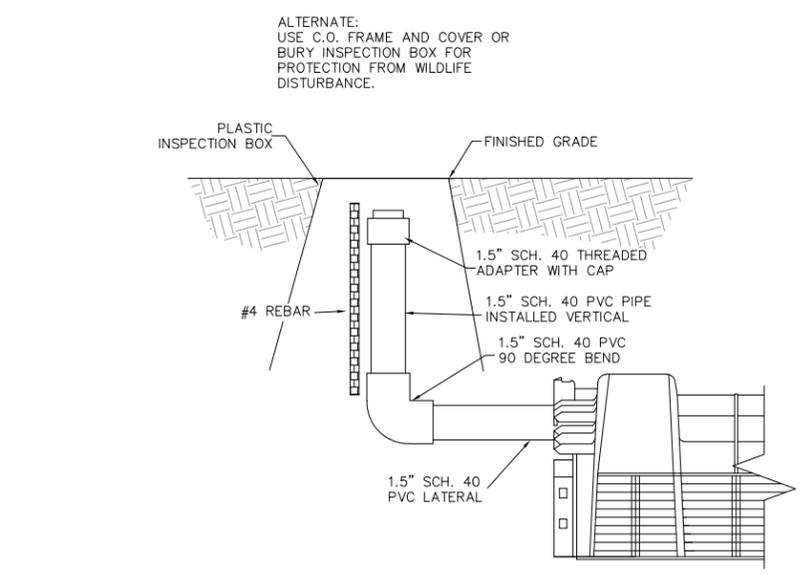
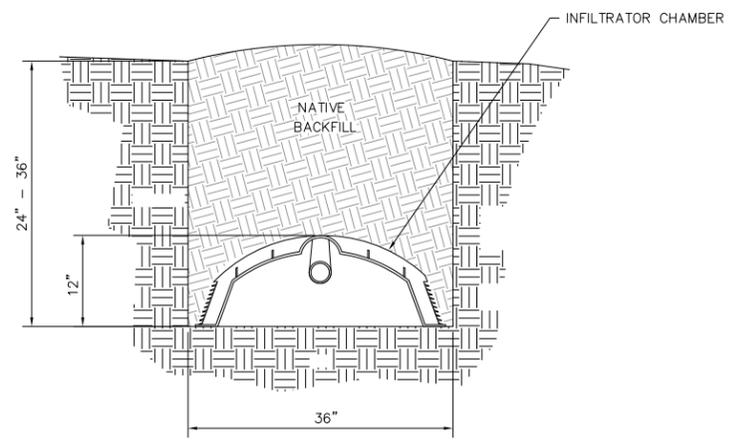
**Civil Engineering**  
**Geotechnical Engineering**  
**Land Surveying**



PROJECT #: 18-196  
DATE: 03/27/2019

SHEET  
**S-2**

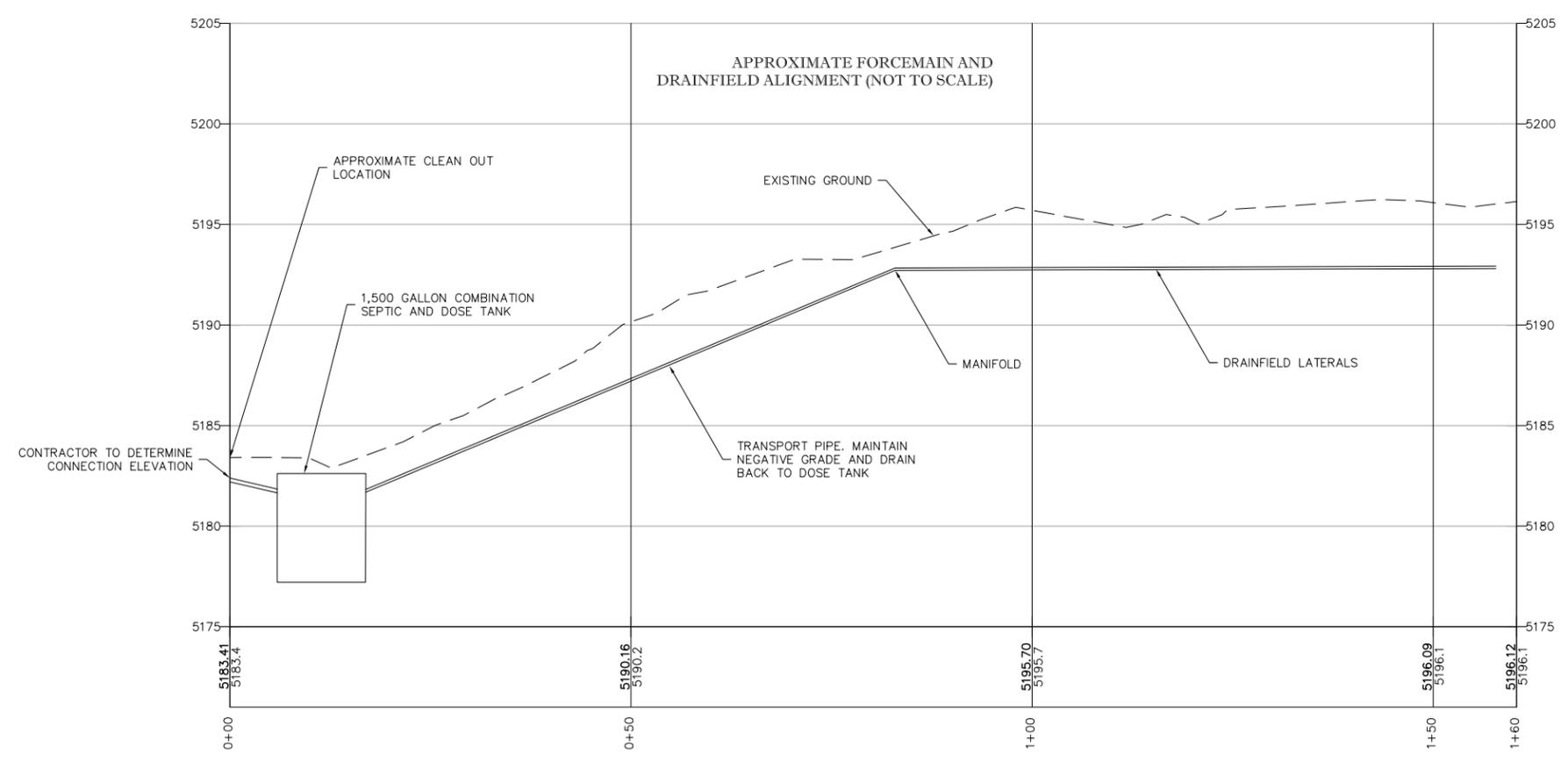
RASMUSON



**X**  
**XX** SECTION  
36" GRAVELLESS TRENCH  
NOT TO SCALE

**2**  
**S-3** DETAIL  
DRAINFIELD RISER  
NOT TO SCALE

**3**  
**S-3** DETAIL (PROFILE VIEW)  
INFILTRATOR CHAMBER (QUICK4 EQUILIZER)  
NOT TO SCALE



NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: CRM  
DESIGNED BY: GDF

DRAWN BY: GDF  
REVIEWED BY:

**RASMUSON RESIDENCE  
DETAILS 2  
PARK COUNTY, MONTANA**

32 DISCOVERY DRIVE  
BOZEMAN, MT 59718  
PHONE (406) 582-0221  
FAX (406) 582-5770  
www.alliedengineering.com

**Civil Engineering  
Geotechnical Engineering  
Land Surveying**



PROJECT #: 18-196  
DATE: 03/27/2019

SHEET  
**S-3**

RASMUSON

C:\Users\w\Designs\2018\18-196 Rasmuson Residence - 383 Flathead Creek Road\28 CAD-Production\sewer\Rasmuson WFS.dwg





# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP AMENDMENT DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	PARK COUNTY, MONTANA (Unincorporated Areas)	A portion of Section 21, Township 3 North, Range 8 East, P.M.M., as described in the Warranty Deed recorded in Roll 142, Pages 1309, 1310 and 1311, in the Office of the Clerk and Recorder, Park County, Montana  The portion of property is more particularly described by the following metes and bounds:
	COMMUNITY NO.: 300160	
AFFECTED MAP PANEL	NUMBER: 30067C0300C DATE: 10/18/2011	
FLOODING SOURCE: FLATHEAD CREEK		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY: 45.993113, -110.733331 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

### DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NAVD 88)	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)
--	--	--	383 Flathead Creek Road	Portion of Property	X (unshaded)	--	--	5180.0 feet

**Special Flood Hazard Area (SFHA)** - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION  
PORTIONS REMAIN IN THE SFHA  
ZONE A

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director  
Engineering and Modeling Division  
Federal Insurance and Mitigation Administration



# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP AMENDMENT DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

### LEGAL PROPERTY DESCRIPTION (CONTINUED)

COMMENCING at a point being the Southeast corner of said Section 21; then North 1°16'26" East along the east line of said Section 21, a distance of 1501.45 feet, then North 90°0'00" West, a distance of 559.83 feet to the POINT OF BEGINNING; then North 74°36'31" West a distance of 486.55 feet; then South 16°56'50" West a distance of 63.54 feet; then South 73°11'14" East a distance of 87.06 feet; then South 63°14'24" East a distance of 125.82 feet; then South 8°34'27" East a distance of 27.91 feet; then South 65°33'07" East a distance of 45.40 feet; then North 76°57'31" East a distance of 25.89 feet; then South 76°09'13" East a distance of 19.06 feet; then North 83°46'24" East a distance of 63.63 feet; then North 35°09'27" East a distance of 22.82 feet; then South 75°10'12" East a distance of 91.42 feet; then North 33°55'53" East a distance of 68.00 feet to the true POINT OF BEGINNING

### PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

### ZONE A (This Additional Consideration applies to the preceding 1 Property.)

The National Flood Insurance Program map affecting this property depicts a Special Flood Hazard Area that was determined using the best flood hazard data available to FEMA, but without performing a detailed engineering analysis. The flood elevation used to make this determination is based on approximate methods and has not been formalized through the standard process for establishing base flood elevations published in the Flood Insurance Study. This flood elevation is subject to change.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

34

Luis V. Rodriguez, P.E., Director  
Engineering and Modeling Division  
Federal Insurance and Mitigation Administration



January 10, 2019

FEMA LOMA Depot  
3601 Eisenhower Ave.  
Alexandria, VA 22304-6425  
Attn: LOMA Manager

**RE: LOMA for 383 Flathead Creek Road (Rasmuson Property)  
Wilsall, Montana**

Dear Reviewer:

This letter is to accompany a Letter of Map Amendment application for a portion of land located at 383 Flathead Creek Road, Wilsall, Montana. The property was created as an aliquot parcel of a U.S. government section of land as described on the attached Park County warranty deed book 142, page 1309 and the attached tax assessor's map (Montana Cadastral information). The legal description of the structure is Section 21, Township 3 North, Range 8 East (E½E ½ and E½W½E½). The home site is near the intersection of Highway 86 (Flathead Creek Road) and Swandal Road as shown on the attached vicinity map. The subject property does not have a plat. The property is approximately 235 acres.

The effective FEMA FIRM map (Community-Panel #30067C0300C) for the area shows a portion of the property to be within Zone A, which does not have Base Flood Elevations (BFEs). The floodplain mapping appears to be rough as evidenced by the floodplain extending north of Highway 86 which is about 25 feet higher than the low-lying area south of Flathead Creek at the project site. A home was recently removed from the project site in anticipation of reconstruction of a new home. The new home is planned to be constructed with a similar footprint as the old home. The home site is located on a mild bench which is about 7 feet above the adjacent floodplain and about 8 feet above the water surface elevation measured in December of 2018.

This LOMA application proposes to remove a portion of the subject property from the Special Flood Hazard Area, which includes the home site and a driveway which accesses the home site. A topographic survey of the site was recently conducted by a professional surveyor with Allied Engineering. Survey points were taken along several cross sections which we determined to be approximately perpendicular to flood flows. Additional survey points were taken around the home site and at prominent site features. We analyzed the cross sections with FHWA's Hydraulics Toolbox software to determine approximate BFEs for the site. Manning's equation

was used for the evaluation. Three cross sections were analyzed. The cross sections were located at the upstream end of the driveway, at the upstream end of a small pedestrian bridge located west of the home site, and at the road downstream of the home site. The one-percent-annual chance event discharge (base or 100-year discharge) calculated by USGS's StreamStats online program was used for the analysis (see attached). The base discharge is estimated at 2,000 cubic feet per second. The channel slope is based on the site specific topographic survey data and USGS topographical maps. It should be noted that the field survey data uses the vertical datum NAVD88 therefore no conversions are necessary.

Results from the three separate cross sections are attached. The attached maps show the locations of the cross sections. BFEs for the cross sections are as follows:

1. Upstream of driveway: 5181.62 feet
2. Pedestrian bridge: 5179.34 feet
3. Road centerline: 5174.92 feet

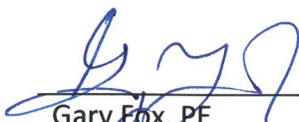
The pedestrian bridge BFE shows that the bridge does not back up flood water to an elevation higher than the upstream driveway cross section. The road centerline cross section shows that the downstream road and bridge do not back up water to the level at the home site. This road centerline cross section was conservative in that it did not consider conveyance below the bridge.

For the area of land to be removed from the flood map, we are proposing to project the BFE from the upstream driveway cross section (5181.62) downstream to the pedestrian bridge cross section. From the pedestrian bridge and downstream, we propose to utilize the pedestrian bridge BFE (5179.34). To be conservative, we have roughly followed the 5182 and 5180 contours to draw the metes and bounds of the area proposed for removal. Instead of following the exact contours (5180.0 and 5182.0), we simplified the proposed area to have less inflection points, ensuring that the area is at or higher in elevation than the corresponding BFE. The attached site map shows the proposed area along with the 5180.0 and 5182.0 contours.

Please review the enclosed application and attachments. If you have any questions or require any additional information, please contact us.

Sincerely,

**Allied Engineering Services, Inc.**



---

Gary Fox, PE  
Civil Engineer

**NOTES TO USERS**

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.7 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 12. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services  
NOAA, NNGS12  
National Geodetic Survey  
SSM-C-3-#0202  
1315 East-West Highway  
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

**Base map** information shown on this FIRM was provided by the U.S. Census Bureau, Geography Division, 2009 TIGER/Line files. The coordinate system used for production of the digital FIRM is the Universal Transverse Mercator Zone 12 North, reference to North American Datum of 1983 and GRS spheroid, Western Hemisphere.

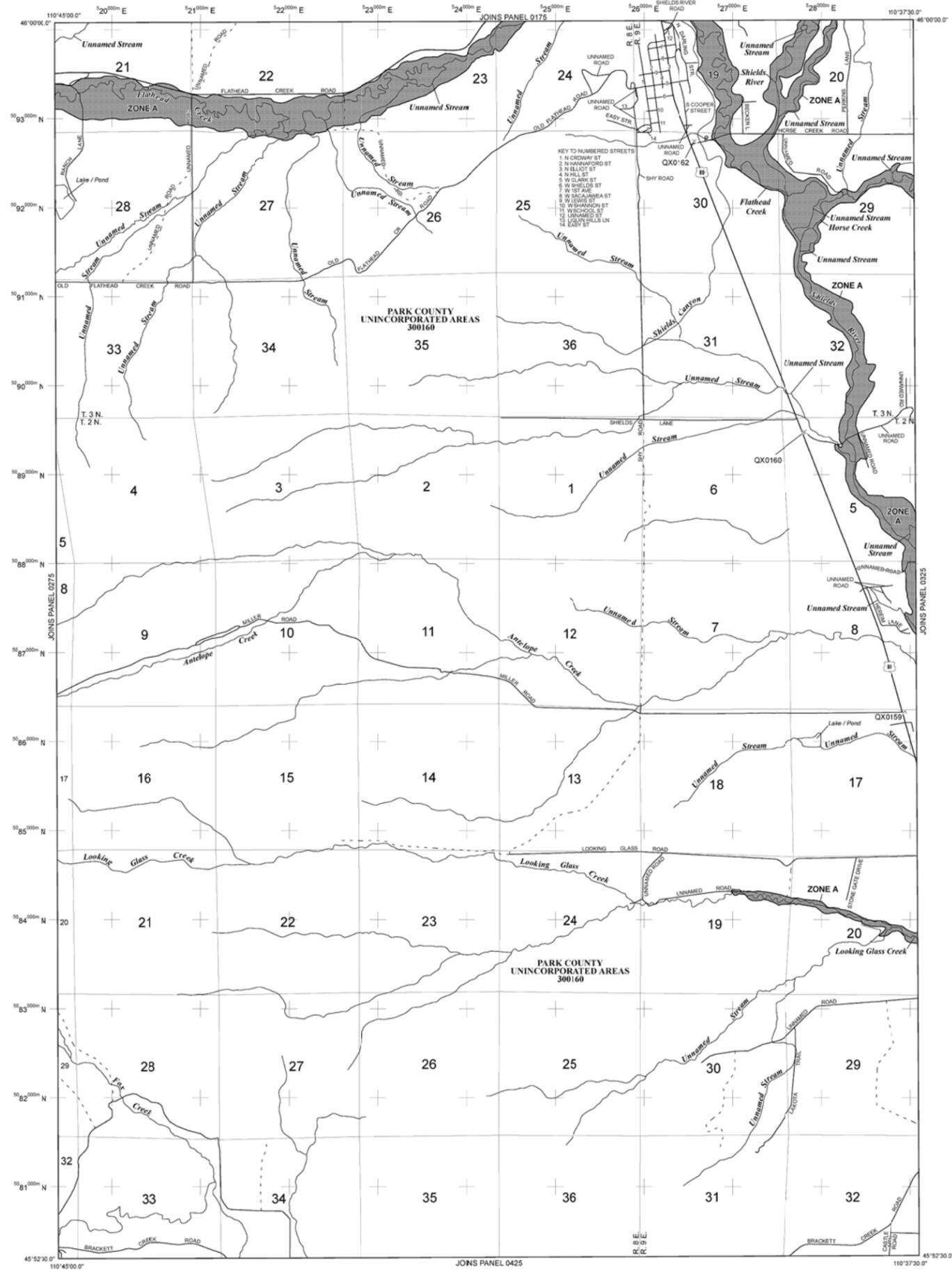
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

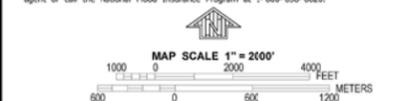
Contact the **FEMA Map Service Center** at 1-800-358-9616, for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.



**LEGEND**

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently deteriorated. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPAs)
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet\*  
(EL 987)
- Base Flood Elevation value where uniform within zone; elevation in feet\*  
(EL 987)
- \* Referenced to the North American Vertical Datum of 1988 (NAVD 88)
- Cross section line
- Transect line
- 97°07'30", 32°22'30"
- 47°5'00"N
- 1000-meter Universal Transverse Mercator grid ticks, zone 12
- 6000000 M
- 5000-foot grid ticks; Alabama State Plane coordinate system, east zone (FPSZONE 0101), Transverse Mercator
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile
- MAP REPOSITORIES
- Refer to Map Repositories list on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP  
October 18, 2011
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL



**NFIP** PANEL 0300C

**FIRM FLOOD INSURANCE RATE MAP**

**PARK COUNTY, MONTANA AND INCORPORATED AREAS**

PANEL 300 OF 1925  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:  
COMMUNITY NUMBER PANEL SUFFIX  
PARK COUNTY 300160 0300 C

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER 30067C0300C**

**EFFECTIVE DATE OCTOBER 18, 2011**

Federal Emergency Management Agency

# Untitled Map

Write a description for your map.

Legend

383 Flathead Creek Rd

Home Site

Highway 86

Flathead Creek

Flathead Creek Rd

86

38



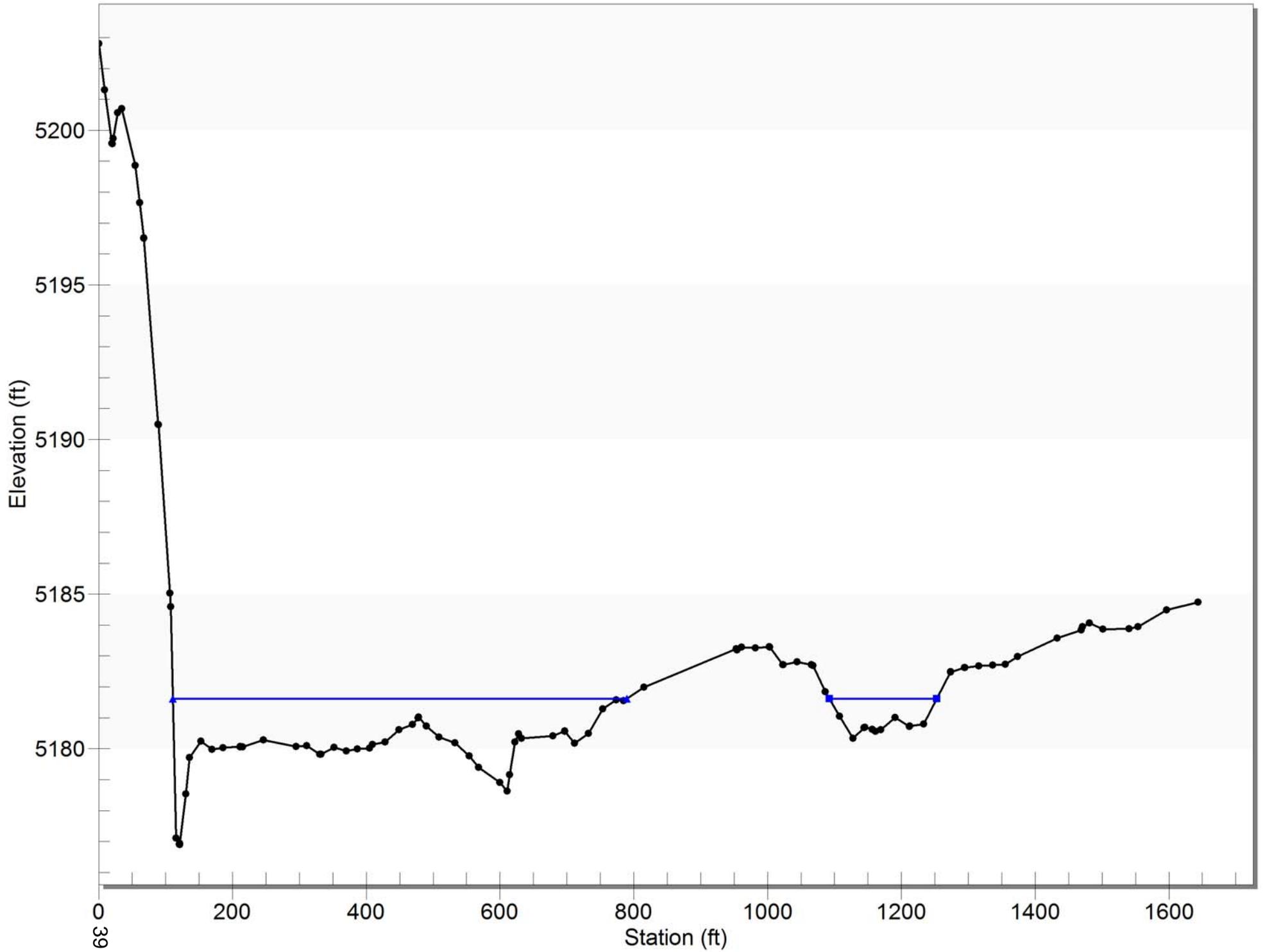
600 ft

Google Earth

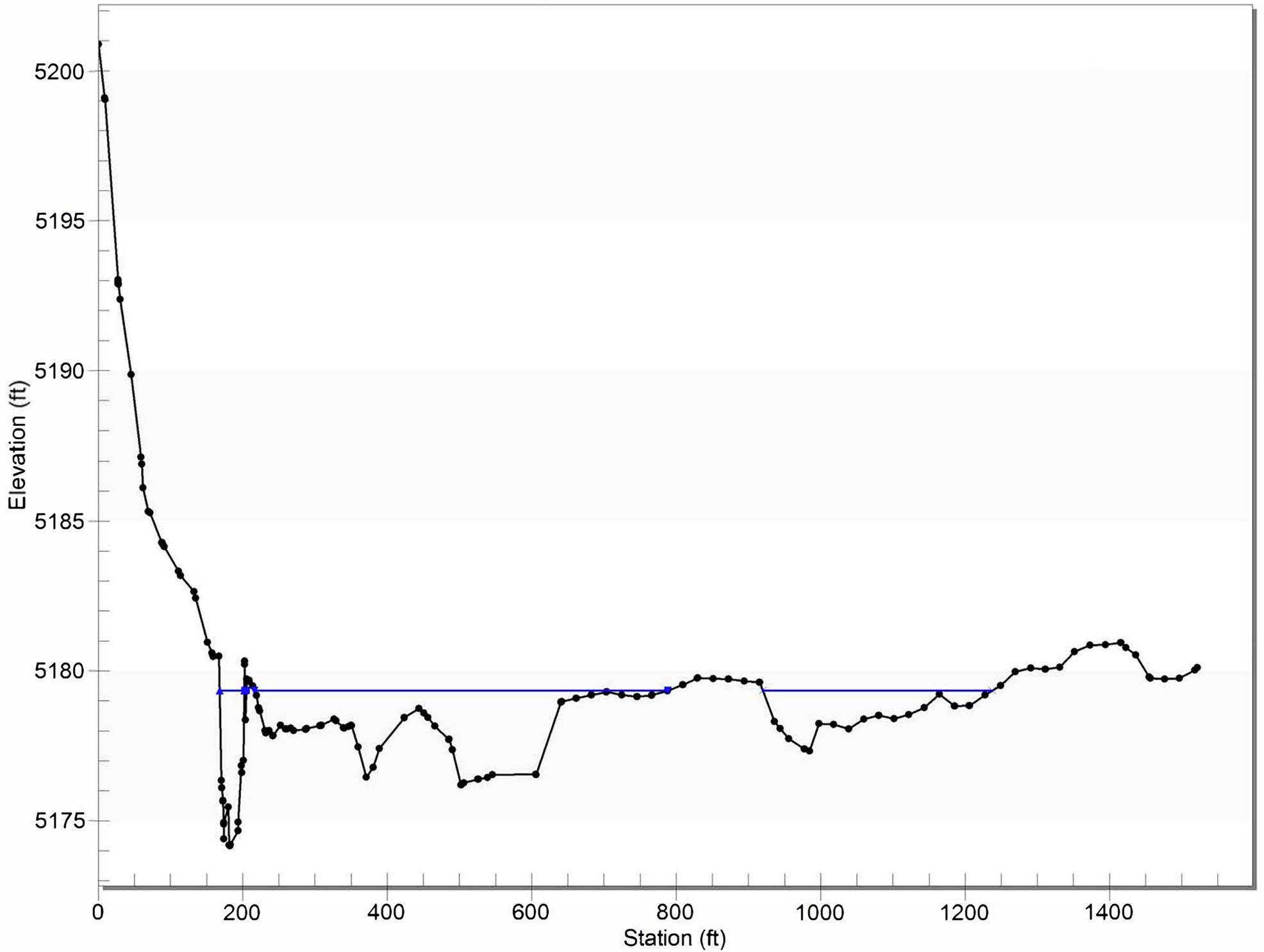
© 2018 Google



# Upstream Cross Section - Rasmuson

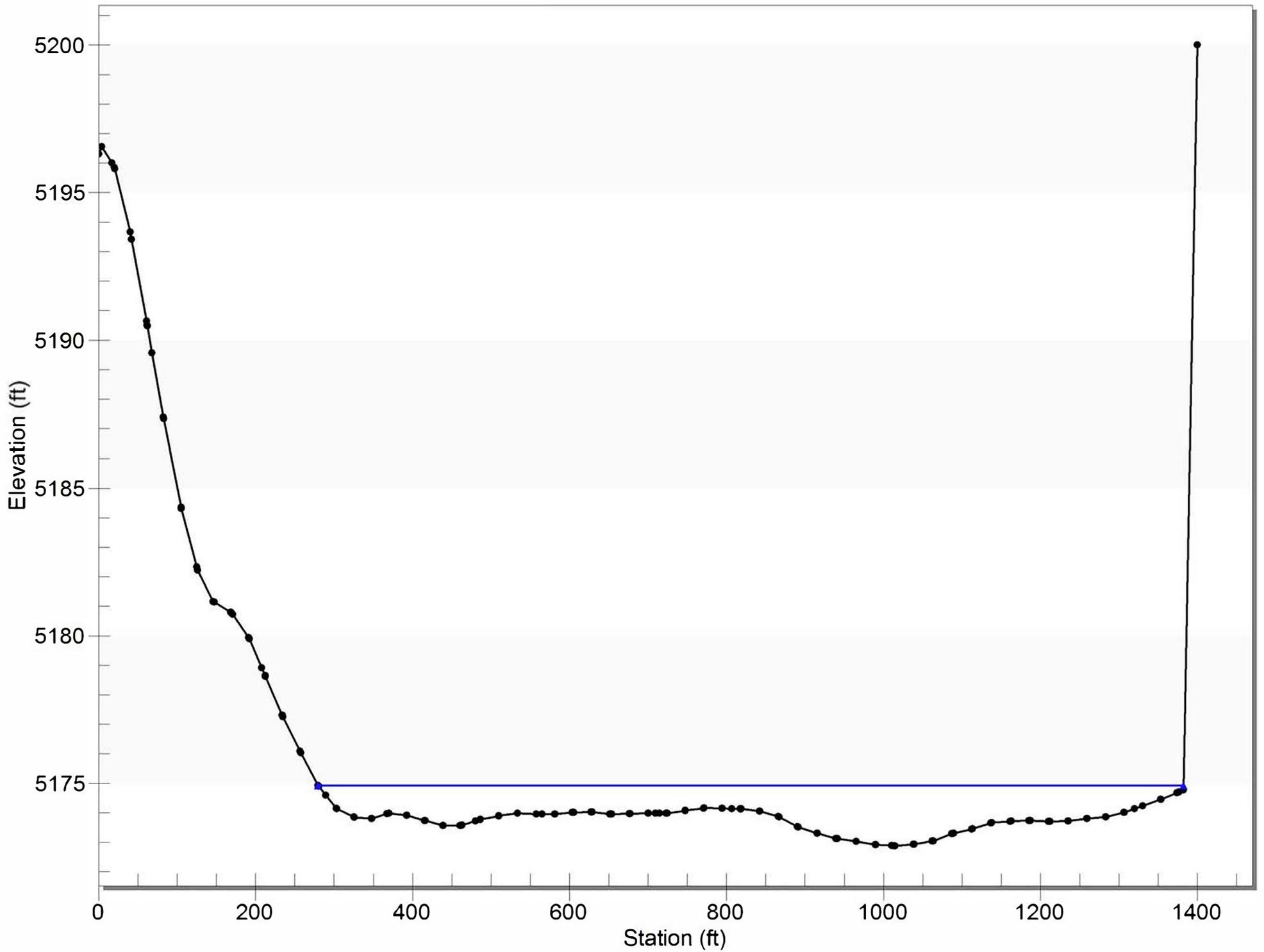


# Ped Bridge Cross Section

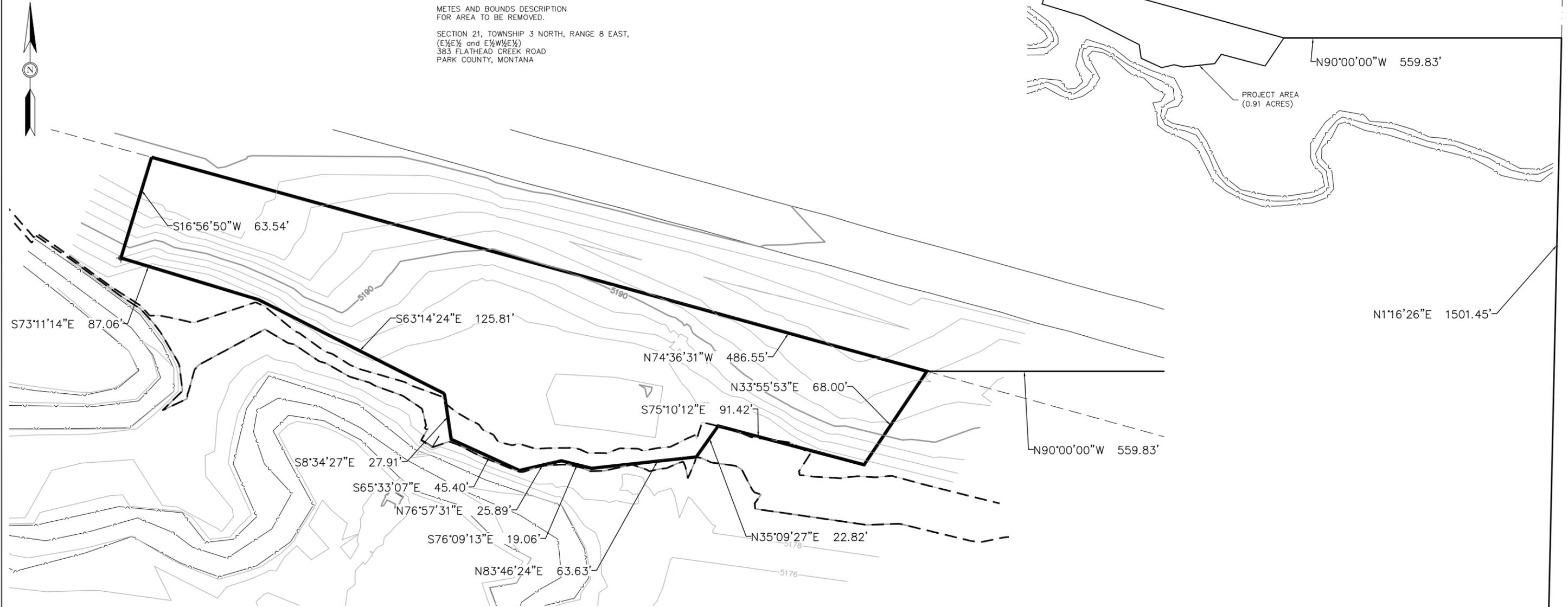




# Road Top Cross Section



METES AND BOUNDS DESCRIPTION  
FOR AREA TO BE REMOVED.  
SECTION 21, TOWNSHIP 3 NORTH, RANGE 8 EAST,  
(E½E½ and E½W½E½)  
383 FLATHEAD CREEK ROAD  
PARK COUNTY, MONTANA



METES AND BOUNDS DESCRIPTION OF THE AREA TO BE REMOVED FROM FLOODPLAIN

-A tract of land being a portion of land located in the Southeast One-Quarter of Section 21, Township 3 North, Range 8 East, Principal Meridian Montana, Park County, Montana, and being more particularly described as follows: Beginning at a point being the Southeast corner of said Section 21; then North 1°16'26\"/>



SOUTHWEST QUARTER OF SECTION 21

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER:	DRAWN BY: GDF
DESIGNED BY: .	REVIEWED BY: .

383 FLATHEAD CREEK ROAD  
METES AND BOUNDS  
PARK COUNTY, MONTANA

32 DISCOVERY DRIVE  
BOZEMAN, MT 59718  
PHONE (406) 582-0221  
FAX (406) 582-5770  
www.alliedengineering.com

Civil Engineering  
Geotechnical Engineering  
Land Surveying



PROJECT #: 18-196  
DATE: 02/01/2019

SHEET  
C4

If you have any questions or comments, please contact the undersigned.

Thank you.

**Allied Engineering Services, Inc.**

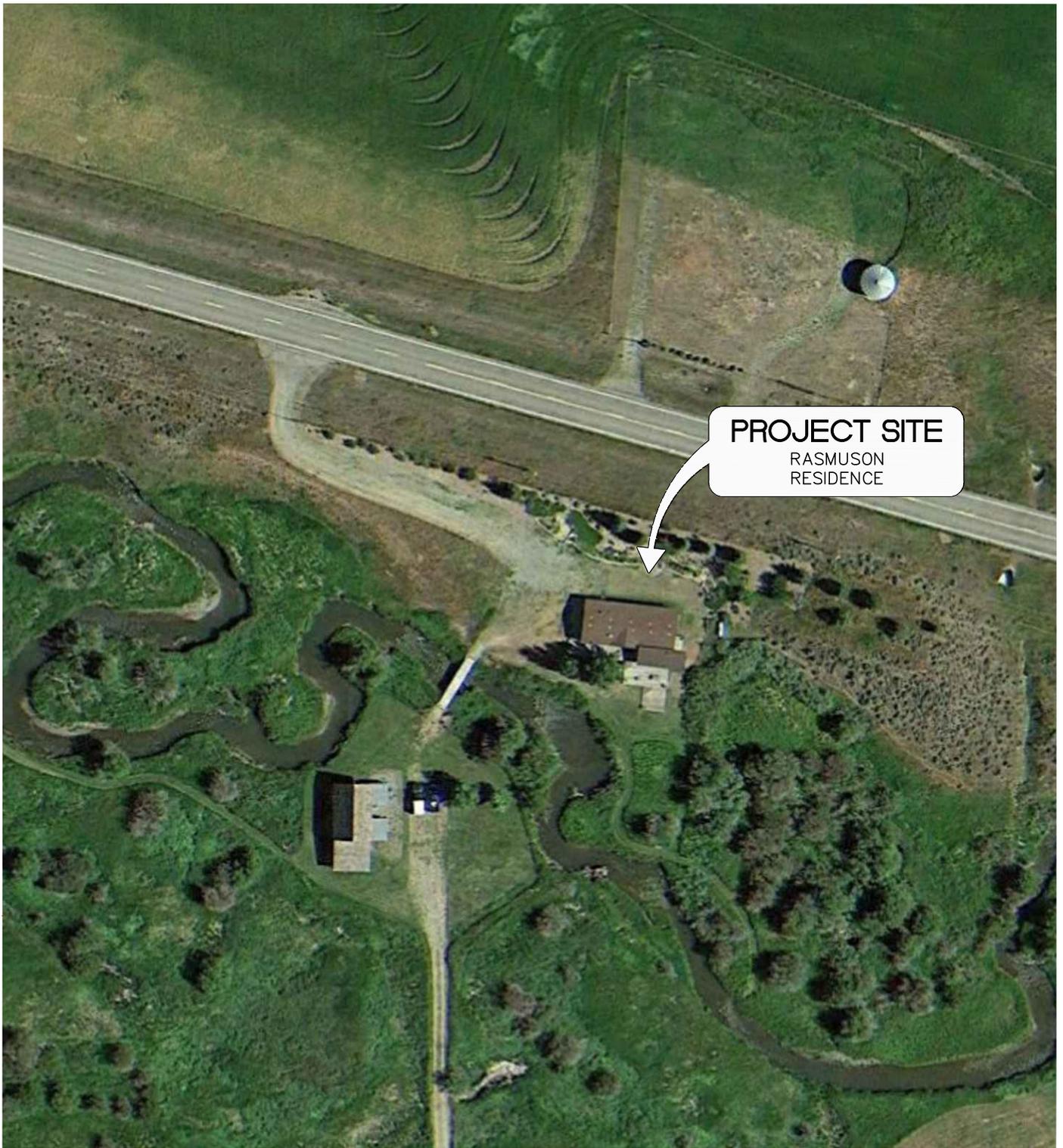
*Gary Fox*

---

Gary Fox, PE  
Civil Engineer

Enc: Variance Criteria Form – Responses  
Site Plan  
Supplemental Information

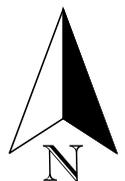
cc: Judy Rasmuson (Owner)  
Miller-Roodell Architects



**PROJECT SITE**  
RASMUSON  
RESIDENCE



SCALE: 1 INCH = 200 FEET



P:\2018\18-196 Rasmuson Residence - 383 Flathead Creek Road\05 Design\Geotech\Figure\Figures TPs and Perc Tests.dwg

**RASMUSON RESIDENCE  
VICINITY MAP  
WILSALL, MONTANA**

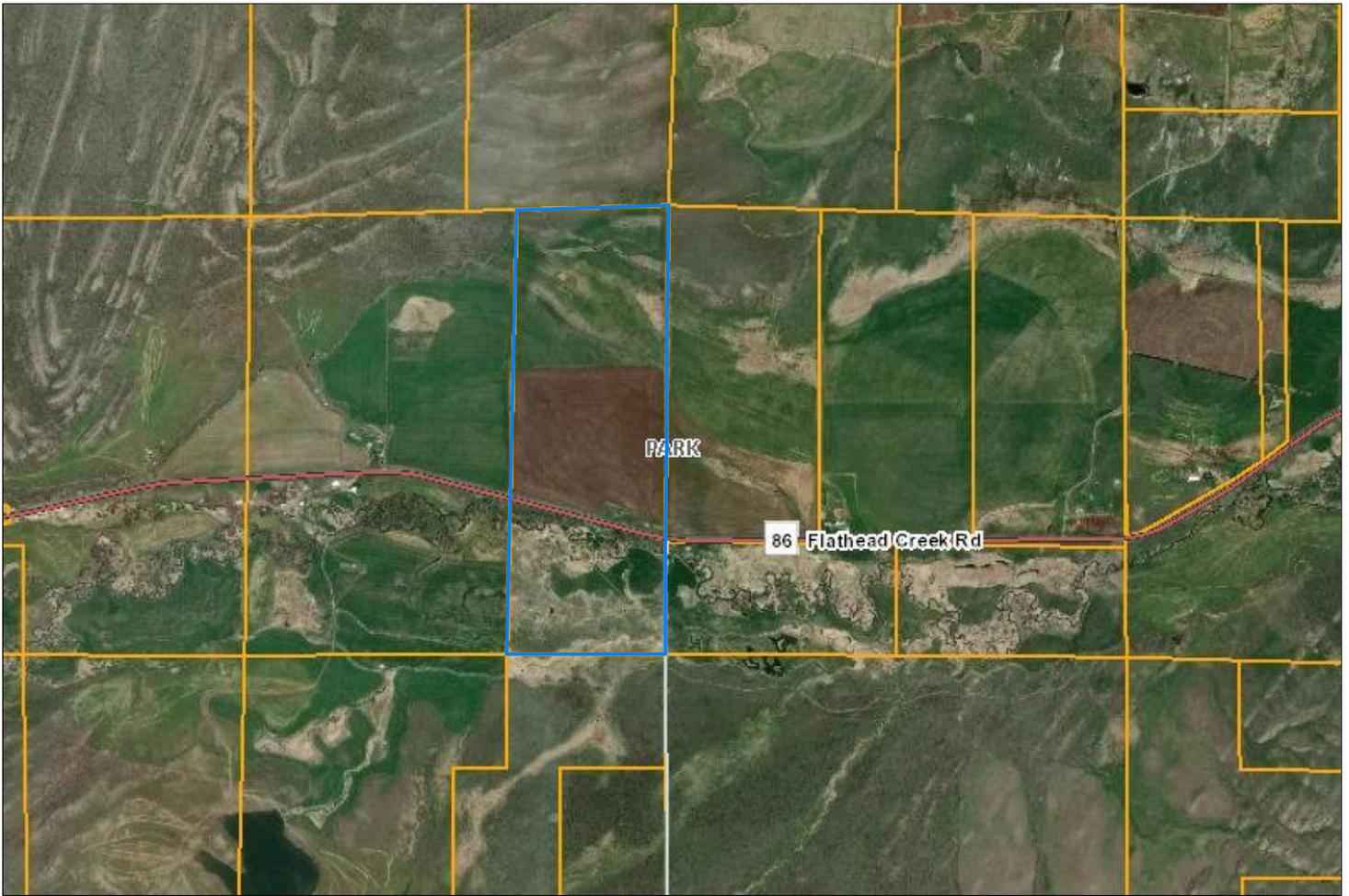
**Civil Engineering  
Geotechnical Engineering  
Land Surveying**

32 DISCOVERY DRIVE . BOZEMAN, MT 59718  
PHONE (406) 582-0221 . FAX (406) 582-5770  
www.alliedengineering.com



**FIGURE 1 44**

DRAWN BY: GDF  
DATE: 11/2018  
PROJECT #: 18-196  
FIGURES.DWG



Rasmuson Residence  
383 Flathead Creek Road

Draft Non-Degradation Analysis  
Documents



# BRIDGER ANALYTICAL LAB

7539 Pioneer Way Suite B, Bozeman, MT 59718 Phone: (406) 582-0822  
US EPA ID# MT00953 MT Certification Number CERT0094

Allied Engineering  
32 Discovery Drive  
Bozeman, MT 59718

**Reported:**  
03/19/2019 13:32

**Project Name: Rasmuson Well**

**Client Sample ID: Rasmuson Well**

**Collection Date: 03/13/2019 13:17**

**Lab Sample ID: 1903151-01**

**Collected By: Steve Leffingwell**

Date Received: 03/13/2019

Analyte	Result	Units	RL	Qual	MCL	Method	Analysis Date/By
---------	--------	-------	----	------	-----	--------	------------------

### **Inorganic**

Conductivity	370	uS/cm	0.10			SM 2510 B	03/18/19 15:56/AAA
Nitrate + Nitrite as N	0.0793	mg/L	0.05		10	EPA 300.1	03/14/19 20:00/FAF

### HYDRAULIC CONDUCTIVITY ANALYSIS

**Project:** Rasmuson - 383 Flathead Creek Rd  
**Project Number:** 18-196  
**Location:** PARK COUNTY, MONTANA



#### MODIFIED COOPER JACOBS METHOD

requires user input

Coefficient: 1500 (Enter 1500 for unconfined, 2000 for confined aquifer)

Well Owner Name	GWIC ID	Well Location	Bottom of Well Casing (ft)	Water Level After Pumping (ft)	Static Water Level Before Pumping (ft)	Yield (gpm)	Length of Test (hours)	Length of Perforated Casing (ft)	Drawdown s (ft)	Transmissivity T (gpd/ft)	b <sup>1</sup>	Hydraulic Conductivity (ft/day)
Red Dog Ranch (LLC)	300011	Sec. 21 T 03N R 08E	200	190	10	50	2	80	180	417	80	0.7
Wallace/Rasmuson	245659	Sec. 22 T 03N R 08E	184	170	26	18	1	40	144	188	40	0.6
Red Dog II	192531	Sec. 21 T 03N R 08E	80	76	35	27	1	20	41	988	20	6.6
Swandal, Martin	14650	Sec. 23 T 03N R 08E	60	55	17	25	1	0	38	987	10	13.2
Walker, Tayner	148071	Sec. 27 T 03N R 08E	80	75	24	30	1	40	51	882	40	2.95
Muddy Creek Ranch	231372	Sec. 22 T 03N R 08E	116	115	24	27	1	20	91	445	20	3.0

**Average 5.3**

<sup>1</sup> Aquifer thickness (b) = static water level - bottom of well casing  
 If well is perforated, b = depth of perforations  
 For short duration pump tests (appx 1 hour) in non-screened/perforated wells, b = 10 ft



**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
NITRATE SENSITIVITY ANALYSIS**



**Project:** Rasmuson - 383 Flathead Creek Rd  
**Project Number:** 18-196  
**Location:** PARK COUNTY, MONTANA

<b>VARIABLES</b>	<b>DESCRIPTION</b>	<b>VALUE</b>	<b>UNITS</b>
K	Hydraulic Conductivity	5.27	ft/day
I	Hydraulic Gradient	0.0290	ft/ft
D	Mixing Zone Thickness (usually constant)	15.0	ft
L	Mixing Zone Length (see ARM 17.30.517(1)(d)(viii))	100	ft
Y	Width of Drainfield Perpendicular to Ground Water Flow	91.0	ft
Ng	Background Nitrate (as Nitrogen) Concentration	0.079	mg/L
Nr	Nitrate (as Nitrogen) Concentration in Precipitation (usually constant)	1.0	mg/L
Ne	Nitrate (as Nitrogen) Concentration in Effluent	50.00	mg/L
#I	Number of Single Family Homes on the Drainfield	1.00	
QI	Quantity of Effluent per Single Family Home	26.70	ft <sup>3</sup> /day
P	Precipitation	18.0	in/year
V	Percent of Precipitation Recharging Ground Water (usually constant)	0.2	

**EQUATIONS**

W	Width of Mixing Zone Perpendicular to Ground Water Flow = (0.175)(L)+(Y)	108.5	ft
Am	Cross Sectional Area of Aquifer Mixing Zone = (D)(W)	1627.5	ft <sup>2</sup>
As	Surface Area of Mixing Zone = (L)(W)	10850	ft <sup>2</sup>
Qg	Ground Water Flow Rate = (K)(I)(Am)	248.6999	ft <sup>3</sup> /day
Qr	Recharge Flow Rate = (As)(P/12/365)(V)	8.917808	ft <sup>3</sup> /day
Qe	Effluent Flow Rate = (#I)(QI)	26.7	ft <sup>3</sup> /day

**SOLUTION**

<b>Nt</b>	<b>Nitrate (as Nitrogen) Concentration at End of Mixing Zone</b> = ((Ng)(Qg)+(Nr)(Qr)+(Ne)(Qe)) / ((Qg)+(Qr)+(Qe))	<b>4.80</b>	<b>mg/L</b>
-----------	---	-------------	-------------

REV. 03/2005

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
PHOSPHOROUS BREAKTHROUGH ANALYSIS**

**Project:** Rasmuson - 383 Flathead Creek Rd  
**Project Number:** 18-196  
**Location:** PARK COUNTY, MONTANA



<u>VARIABLES</u>	<u>DESCRIPTION</u>	<u>VALUE</u>	<u>UNITS</u>
Lg	Length of Primary Drainfield as Measured Perpendicular to Ground Water Flow	91.0	ft
L	Length of Primary Drainfield's Long Axis	65.0	ft
W	Width of Primary Drainfield's Short Axis	10.0	ft
B	Depth to Limiting Layer from Bottom of Drainfield Laterals*	8.0	ft
D	Distance from Drainfield to Surface Water	150.0	ft
T	Phosphorous Mixing Depth in Ground Water (0.5 ft for coarse soils, 1.0 ft for fine soils)**	1.0	ft
Ne			
Sw	Soil Weight (usually constant)	100.0	lb/ft3
Pa	Phosphorous Adsorption Capacity of Soil (usually constant)	200.0	ppm
#	Number of Single Family Homes on the Drainfield	1.00	
<b><u>CONSTANTS</u></b>			
PI	Phosphorous Load per Single Family Home (constant)	6.44	lbs/yr
X	Conversion Factor for ppm to percentage (constant)	1.0E+06	
<b><u>EQUATIONS</u></b>			
Pt	Total Phosphorous Load = (PI)(#)	6.44	lbs/yr
W1	Soil Weight under Drainfield = (L)(W)(B)(Sw)	520000.0	lbs
W2	Soil Weight from Drainfield to Surface Water = [(Lg)(D) + (0.0875)(D)(D)] (T)(Sw)	1561875.0	lbs
P	Total Phosphorous Adsorption by Soils = (W1 + W2)[(Pa)/(X)]	416.4	lbs
<b><u>SOLUTION</u></b>			
BT	Breakthrough Time to Surface Water = P / Pt	<b>64.7</b>	<b>years</b>

BY:  
DATE: April 2, 2019

**NOTES:** \* Depth to limiting layer is typically based on depth to a limiting layer (such as clay, bedrock or water) in a test pit or bottom of a dry test pit minus two feet to account for burial depth of standard drainfield laterals.  
\*\* Material type is usually based on test pit. A soil that can be described as loam (e.g. gravelly loam, sandy loam, etc.) or finer according to the USDA soil texture classification system is considered a "fine" soil.

REV. 12/2007

## ADJACENT TO SURFACE WATER ANALYSIS

Project: Rasmuson Residence  
 Project Number: 18-196  
 Location: Park County



**TRIGGER VALUE CALCULATION FOR ADJACENT TO SURFACE WATER DILUTION ANALYSIS**

"An analysis of the effect of the proposed drainfield system on the quality of any adjacent surface water is required by ARM 17.36.312 and 17.30.715(1c). The increase in the nutrient concentration in the surface water cannot exceed the trigger value (T.V. of 0.01 mg/L nitrate and 0.001 mg/L phosphorous as set forth in Circular DEQ 7."

**DILUTION EQUATION:** 
$$\frac{(QD)(CD) + (QL)(CL)}{QD + QL} < T.V. = \text{non-significant}$$

Note: Effluent flow rate (QD) must be multiplied by the number of drainfields in the subdivision.

**NITRATE CALCULATION:**

	1.00	Number of drainfields in subdivision
QD =	26.70	ft <sup>3</sup> /d Effluent flow rate from drainfield in cubic feet per day (commonly 200 gpd or 26.7 ft <sup>3</sup> /d for a 2 - 5 bedroom home)
CD =	50.00	mg/L Nitrate concentration in mg/L (50 mg/L nitrate-N for standard drainfield, 24 mg/L for Level 2 wastewater treatment system)
QL =	3.85	ft <sup>3</sup> /s Flow rate in ft <sup>3</sup> /s into (or out of) surface water determined by stream gauge (usually the 7-day, 10-year low flow or 7Q10)
CL =	0.00	mg/L Nitrate concentration (in mg/L) in surface water; can typically assume zero since increase, not total, is important

**0.0040130 mg/L = final result, must be < 0.01 mg/L to be considered nonsignificant nitrate increase**

**PHOSPHOROUS CALCULATION:**

	1	Number of drainfields in subdivision
QD =	26.7	ft <sup>3</sup> /d Effluent flow rate from drainfield in cubic feet per day, (commonly 200 gpd or 26.7 ft <sup>3</sup> /d for a 2 - 5 bedroom home)
CD =	10.6	mg/L Phosphorous concentration in mg/L (commonly 10.6 mg/L) in effluent
QL =	3.85	ft <sup>3</sup> /s Flow rate in ft <sup>3</sup> /s into (or out of) surface water determined by stream gauge (usually the 7-day, 10-year low flow or 7Q10)
CL =	0	mg/L Phosphorous concentration (in mg/L) in surface water; can typically assume zero since increase, not total, is important

**0.0008508 mg/L = final result, must be < 0.001 mg/L to be considered nonsignificant for phosphorous increase**



## I. INTRODUCTION

This report presents Allied Engineering's wastewater system evaluation for the Rasmuson Residence. The site address is 383 Flathead Creek Road located west of Wilsall, Montana. The project is located north of Flathead Creek and south of Highway 86 (Flathead Creek Road).

A 2-bedroom home was built on the property circa 2000 and was removed in 2018 as preparation to upgrade and rebuild the home. The home utilized a pressure dosed drainfield which was located northeast of the structure, on top of a bench which is about 11 feet higher in elevation than the home site. It is our understanding that there are no records of the wastewater system. As part of the current home site improvements, the owner would like to permit a new wastewater treatment system and drainfield. The new drainfield is proposed to be sized for the two (2) bedroom home. The proposed wastewater system is designed for 225-gpd.

## II. WATER SUPPLY

The existing water supply for the home will be provided by a well located west of the home site. The well is GWIC #300011 and extended to a depth of 200 feet, with static water encountered at 10 feet. The well is located at the same approximate elevation as the home site, about 11 feet lower than the drainfield site. The previous home was served by a separate well located west of the home site. That well will no longer be used for domestic water but may be used for irrigation.

Enclosed in Appendix C are well logs from nearby properties. According to well logs in the area, the area has sufficient water supply for the purpose of this application.

As part of this evaluation, a water sample was obtained from the existing well. This sample was analyzed for nitrates resulting in 0.0793 mg/L and for Conductivity resulting in 370 uS/cm.

## III. WASTEWATER SYSTEM

### Site Evaluation:

On October 12, 2018, two (2) test pits were excavated on the property in the vicinity of the proposed wastewater system as part of the site evaluation. On October 13, 2018, one percolation test was conducted in the vicinity of the proposed wastewater system. The subsurface investigation was conducted by Gary Fox, P.E., of Allied Engineering. Refer to the attached test pit logs and percolation test data for additional information.

**Table 1: Rasmuson Wastewater – Test Results**

Test	Soil Texture or Percolation Rate	Application Rate (gpd/ft <sup>2</sup> )	* Required Absorption Area (ft <sup>2</sup> )	Type of Wastewater System
AESI TP #1	Silt Loam	0.4	562.5	Conventional-Pressure Dosed or Gravity
AESI TP #2	Silt Loam	0.4	562.5	Conventional-Pressure Dosed or Gravity
Percolation Test No. 1	20 min/inch	0.4	562.5	Conventional-Pressure Dosed or Gravity
<b>Recommendations</b>		0.4	562.5	Conventional-Pressure Dosed

\* Design wastewater flow: 225 gpd

NRCS soil survey data (Attached) was evaluated as part of this application. NRCS maps the drainfield site as map unit symbol “48B” which is described as “Tamaneen clay loam, 0 to 4 percent slopes”. The typical profile for this soil includes 3 inches of cobbly clay loam over 12 inches of clay loam overlying very gravelly sandy loam.

NRCS data shows a seasonal upper limit of groundwater to be greater than 6.5. The frequency of flooding or ponding for the site is listed as none. This is consistent with our test pit findings, which encountered groundwater at about 7.5 feet deep at the home site, which is about 11 feet lower in elevation than the drainfield site.

The subject property is located on the Federal Emergency Management Agency’s (FEMA) floodplain map (Map ID #30067C0300C). A portion of the property, including the drainfield site, is shown to be within Zone A of the FEMA floodplain map. This floodplain mapping appears to be rough as evidenced by the floodplain extending north of Highway 86. A recent Letter of Map Amendment (LOMA) application was approved by FEMA to remove the building site and drainfield area from the floodplain. The approved LOMA Determination Document (Case 19-08-0296A) for the subject property is attached.

**Wastewater System Sizing**

A Site Plan layout has been provided for the proposed new wastewater treatment system (see Appendix E).

**Wastewater Flow.** This project is pursuing a wastewater permit to serve a 2-bedroom home. According to Circular DEQ-4, 2-bedrooms produces 225 gallons per day of wastewater.

**Primary Treatment (Septic Tank Size).** According to Circular DEQ-4 the minimum acceptable septic tank volume for a 2-bedroom home is 1,000-gallons. For this system, we are proposing to utilize one 1,000-gallon concrete septic tank chamber.

**Effluent Filter.** All septic tank effluent must pass through an effluent filter, thus, an effluent filter shall be installed on the outlet of the septic tanks, before the dose tank. In this case, the effluent filter must be installed at the wall dividing the septic and dosing chambers for the combination tank. The effluent filter must be readily accessible to the ground surface. A high level alarm must be installed to signify if the filter has clogged.

**Secondary Treatment (Drainfield Size).** The absorption area for the house will consist of a pressure-dosed drainfield. The following sizing has been provided for the 2-bedrooms using 225-gpd.

Home Flow Rate (2-bedrooms)	= 225 gpd
Application Rate	= 0.4-gpd/ft <sup>2</sup>
Absorption Area (500-gpd ÷ 0.4-gpd/ft <sup>2</sup> )	= 562.5-ft <sup>2</sup>
Area with Gravelless Chambers (562.5-ft <sup>2</sup> x 0.75)	= 422-ft <sup>2</sup>
3' wide trenches (422-ft <sup>2</sup> / 3-ft wide trenches)	= 141-lineal feet
2 drainfield laterals (141-ft/ 2 laterals)	= 71-lineal feet/lateral (min.)
Recommended trench length per lateral	= 75-lineal feet per lateral

We propose all pressurized laterals be in placed in 3-ft wide gravelless trenches. The trenches are proposed to be 24-inches deep and spaced at 7-ft on-center. The total drainfield area will be 75-ft by 10-ft. If the system needs to be replaced, the 100% replacement area is designated to be located adjacent to the proposed primary drainfield as shown on the site layout.

**Sewage Forcemain and Pressure Distribution Design.** The sewage forcemain, consisting of approximately 65-ft of 2-inch diameter Schedule 40 PVC pipe, will convey wastewater effluent from the dosing tank to the drainfield zones. The sewage forcemain shall maintain positive grade (no humps or bellies) between the dose tank and the distribution manifold so that effluent drains back to the dose tank between doses. The distribution manifold shall be installed at the high point in the system to facilitate drainage between dose cycles and minimize potential for freezing of the effluent. The sewage forcemain shall maintain negative grade (no humps or bellies) between the distribution manifold and the drainfield laterals such that these laterals and manifold drain into the laterals.

The manifold will consist of 1.5-inch diameter Schedule 40 PVC pipe 7 feet in length. Absorption bed laterals will consist of 1.5-inch diameter Schedule 40 PVC perforated pipe. The laterals for the absorption bed will have 3/16-inch orifices spaced every five (5) feet (i.e. the first and last orifices will be 2.5-ft from the end of each lateral). Each lateral will be required to have approximately 13.5 gpm of flow and have a 2.1 percent flow variation from one end to the other. These values were computed using a five-foot pressure head requirement at the last orifice. The last orifice in each line will face up for testing purposes and to allow air into the lateral for adequate drainage of the lateral after each dose.

The dose volume of the pressure distribution system must be equal to the drained volume of the discharge pipe (forcemain) and manifold, plus a volume that should be 5 to 10 times the net volume of the distribution pipe in the distribution system (drainfield zone). Using a dose volume of 125 gallons, the system provides approximately 1.8 doses per day for the entire drainfield (225 gpd / 125 gallons per dose). With a pump rate of approximately 27 gallons per minute, the estimated pump run time for each pump cycle is about 4.6 minutes (which is less than 15 minutes).

With a design squirt of 5 ft, the effluent pump shall be capable of providing 29.5 gpm at 20.2 TDH (use Orenco PFEF 40 or approved equal). See spreadsheet calculations in Appendix F.

**Dosing Tank.** A 500-gallon dosing tank chamber, with effluent pump is proposed. A typical 500-gallon dosing chamber (manufactured by Anderson Precast) provides 125-gallons per vertical foot (10.4 gallons per inch).

**Dosing Tank Float Settings**

Dosing Tank Floor to Top of Effluent Pump = 9.3"

Volume = (9.3")\*(10.4-gal/inch) = 96.7-gallons

Bottom of Tank to Pump Off = 13"

Bottom of Tank to Pump On = 25"

Bottom of Tank to Alarm = 28"

Dose Volume: Float Switch "Pump Off" to Float Switch "Pump On" = 12"

Volume = (12")\*(10.4-gal/inch) = 125-gallons

Float Switch "Pump On" to Float Switch "Alarm" = 3"

Volume = (3")\*(10.4-gal/inch) = 31.2-gallons

Reserve Capacity = (0.25)\*(225-gpd) = 57-gallons

(57-gallons) / (10.4-gal/inch) = 5.5"

The total volume is 309.9-gallons, which is less than the 500-gallons capacity of the dose chamber. Therefore, the tank size is sufficient for the design settings.

**DRAINFIELD SIZING CALCULATIONS**

**I. Wastewater Flow Determination:**

From Circular DEQ 4, Chapter 5, Subsection 5.1

2-Bedroom Residence = 225 gpd

**II. Septic Tank Sizing:**

From Circular DEQ 4, Chapter 7, Subsection 7.2.10.1.A.2.

The minimum acceptable size of a septic tank for a 2-bedroom residence is 1,000 gallons. Use one (1) 1,500 gallon (min.) double compartment combination septic and dose tank (1,000 gallon septic/500 gallon dose) effluent filter for the 2-bedroom main home.

**III. Pressurized Drainfield Sizing:**

From Circular DEQ 4, Chapter 8, Table 8-1

Flow Rate (2-bedroom home)	=	225 gpd
Application Rate:	=	0.4 gpd/ft <sup>2</sup>
Required Drainfield Area (225 gpd ÷ 0.4 gpd/ft <sup>2</sup> )	=	562.5 ft <sup>2</sup>
Required Drainfield Area with Gravelless Chambers	-	421.9 ft <sup>2</sup>

Primary Area:

We propose one zone containing two (2) 75-ft long pressurized laterals in 36-inch wide trenches spaced 7-ft on-center. If the system needs to be replaced, the 100% replacement is designated to be adjacent to the primary drainfield.

**IV. Dosing Tank Sizing:**

From Circular DEQ 4, Chapter 9, Subsections 9.3 & 9.8.1.

Drained Volume of Discharge Pipe:

$$[(\pi \times (2.067 \text{ in.})^2) \div 4 \times (1 \text{ ft}^2 \div 144 \text{ in.}^2)] \times (65 + 7) \text{ ft.} \times (7.48 \text{ gal} \div 1 \text{ ft}^3) = 12.65 \text{ gal.}$$

Drained Volume of Distribution Pipe:

$$[(\pi \times (1.61 \text{ in.})^2) \div 4 \times (1 \text{ ft}^2 \div 144 \text{ in.}^2)] \times 150 \text{ ft} \times (7.48 \text{ gal} \div 1 \text{ ft}^3) = 15.8 \text{ gal.}$$

Dosing Volume:

$$(12.65 + 7.1 \times 15.8) = 125 \text{ gal.}$$

Pump Submergence Volume (PFEF40):

$$(9.3 \text{ in.} \times (500 \text{ gal.} \div 48 \text{ in.})) = 97 \text{ gal.}$$

Reserve Volume:

$$(225 \text{ gal.} \times 25\%) = 56.3 \text{ gal.}$$

Alarm Height Volume:

$$(3 \text{ in.} \times (500 \text{ gal.} \div 48 \text{ in.})) = \underline{\underline{31.2 \text{ gal.}}}$$



**TOTAL = 309.5**

Use one **(1) 500 gallon (min.)** liquid volume capacity concrete dose chamber with submersible effluent pump for the 2-bedroom residence.

**V. Pump Sizing:**

From Circular DEQ 4, Chapter 9, Subsection 9.5.

The duration of each discharge may not exceed 15 minutes to promote uniform distribution. The wastewater treatment system for the 2-bedroom home was found to have the following pump parameters:

Total Dynamic Head (TDH) = 20.2 ft.  
Flow Rate = 29.5 gpm

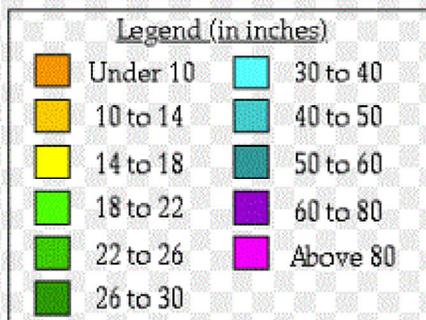
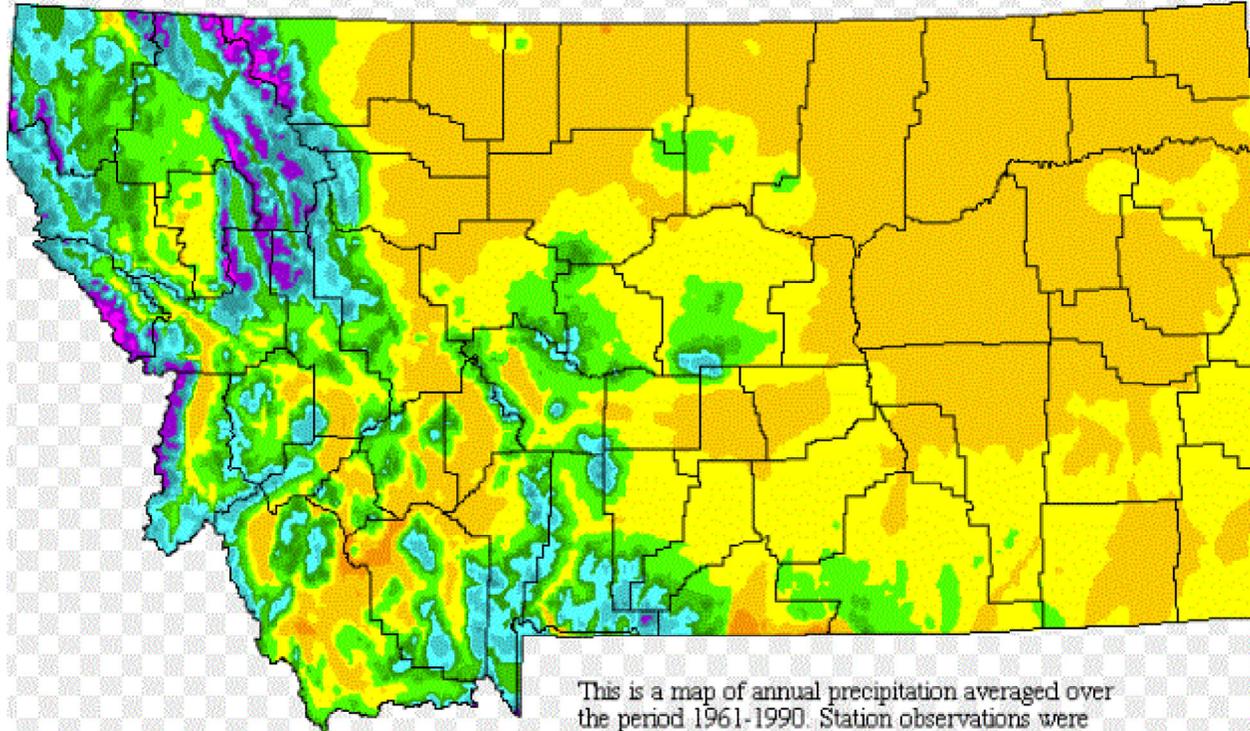
For a TDH of 20.2-ft, an Orenco PFEF 40 submersible effluent pump operates at approximately 27 gpm. The duration of discharge is as follows:

125 gallons ÷ 27 gpm = 4.6 minutes

Use one **(1) Orenco PFEF 40** submersible effluent pump (or approved equivalent).

## Average Annual Precipitation Montana

Copyright 2000 by Spatial Climate Analysis Service,  
Oregon State University



This is a map of annual precipitation averaged over the period 1961-1990. Station observations were collected from the NOAA Cooperative and USDA-NRCS SnoTel networks, plus other state and local networks. The PRISM modeling system was used to create the gridded estimates from which this map was made. The size of each grid pixel is approximately 4x4 km. Support was provided by the NRCS Water and Climate Center.

For information on the PRISM modeling system, visit the SCAS web site at <http://www.ocs.orst.edu/prism>

The latest PRISM digital data sets created by the SCAS can be obtained from the Climate Source at <http://www.climatesource.com>

# TEST PIT LOCATION DESCRIPTION AND LOG FORM

(See Site Layout for Approximate Test Pit Locations)



<b>Client:</b> Rasmuson				<b>Location:</b> TP-1								
<b>Project #:</b> 18-196				<b>Slope:</b> Approx. 2%								
<b>Date:</b> 10/12/2018				<b>Vegetation:</b> Native Grasses/Landscape								
<b>Described By:</b> GDF				<b>Land Use:</b> Residential								
<b>Reviewed By:</b>												
Depth (in.)	Color	Mottles	Texture	Structure			Consistence	Boundary		Roots		Comments
				G	SH	S		D	T	Q	S	
0 - 7	10 YR 4/2	NONE	Silt Loam	2	bk	m	mfr	c	s	2	m	Brown; Native Topsoil; Sandy Silt with Organics and roots; Dry
7 - 57	10 YR 4/2	NONE	Silt Loam	1	gr	f	mvfr	c	s	1	f	Silt with sand and occasional roots, Dry
57 - 108	10 YR 5/3	NONE	Sandy Gravel	0	gr	f	ml	c	s	0	-	Brown; Sandy Gravel; Slightly moist to wet at 7.5'.
108	End excavation in same material as above											

# TEST PIT LOCATION DESCRIPTION AND LOG FORM

(See Site Layout for Approximate Test Pit Locations)



<b>Client:</b> Rasmuson				<b>Location:</b> TP-2								
<b>Project #:</b> 18-196				<b>Slope:</b> Approx. 2%								
<b>Date:</b> 10/12/2018				<b>Vegetation:</b> Native Grasses/Landscape								
<b>Described By:</b> GDF				<b>Land Use:</b> Residential								
<b>Reviewed By:</b>												
Depth (in.)	Color	Mottles	Texture	Structure			Consistence	Boundary		Roots		Comments
				G	SH	S		D	T	Q	S	
0 - 7	10 YR 4/2	NONE	Silt Loam	2	bk	m	mfr	c	s	2	m	Brown; Native Topsoil; Sandy Silt with Organics and roots; Dry
7 - 60	10 YR 4/2	NONE	Silt Loam	1	gr	f	mvfr	c	s	1	f	Silt with sand and occasional roots, Dry
60 - 102	10 YR 5/3	NONE	Sandy Gravel	0	gr	f	ml	c	s	0	-	Brown; Sandy Gravel; Slightly moist to wet at 7.5'.
102	End excavation in same material as above											

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
PERCOLATION TEST FORM**

Owner Name Rasmuson

Project Name Rasmuson Residence - 383 Flathead Creek Road

Lot or Tract Number NA Perc Test Number PT-1

Diameter of Test Hole 8" Depth of Test Hole 24"

Date and Time Presoak Began 11/12/2018 @ 12:45 PM Ended 11/13/2018 @ 9:30 AM

Date Test Began 11/13/2018

Distance of the reference point above the bottom of the hole 28"

**Test Results**

Start Time of Test	End Time of Test	Time Interval (Minutes)	Initial Distance Below Reference Point	Final Distance Below Reference Point	Drop in Water Level (Inches)	Percolation Rate (Minutes/Inch)
9:30:00 AM	9:45:00 AM	15.00	21.50	22.25	0.75	20.0
9:45:30 AM	10:00:30 AM	15.00	21.50	22.25	0.75	20.0
10:01:00 AM	10:16:00 AM	15.00	21.00	22.00	1.00	15.0
10:16:00 AM	10:31:00 AM	15.00	22.00	22.75	0.75	20.0
10:31:30 AM	10:46:30 AM	15.00	21.00	21.75	0.75	20.0
10:46:30 AM	11:01:30 AM	15.00	21.75	22.50	0.75	20.0

I certify that this percolation test was done in accordance with DEQ-4, Appendix A.

Gary Fox  
Name (printed)

Gary Fox  
Signature

November 13, 2018  
Date

Allied Engineering Services, Inc.  
Company

Gary Fox, PE  
Percolation Test by:



<b>Site Name: RED DOG RANCH LLC</b>		
<b>GWIC Id: 300011</b>		
<b>Additional Lithology Records</b>		
<b>From</b>	<b>To</b>	<b>Description</b>
134	137	GRAY SANDSTONE - HARD
137	150	RED SHALE
150	156	DARK RED SANDSTONE - HARD (TRACE)
156	165	RED SHALE
165	173	DARK RED SANDSTONE - HARD (12-13 GPM)
173	180	RED SHALE
180	200	RED SHALE & SANDSTONE MIX (10 GPM)



# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
406-222-4145 parkcounty.org

---

April 2<sup>nd</sup>, 2019

To: Park County Board of Health

**RE: Variance Application for a Holding Tank Installation at the Proposed Gardiner Business Park**

Introduction:

The applicant, Jeff Guengerich, is requesting a variance from the Board of Health that, if granted, would allow the construction of a holding tank to serve as an RV dump station in the proposed Gardiner Business Park complex. The applicant is represented by Ashley Flammond of Water & Environmental Technologies.

Background

The owner, Jeff Guengerich, plans to adjust the boundary line of Government Lots 12 (19.78 acres) & 14 (0.5 acres) to create two new lots Tract 1 (5.38 acres) and Tract 2 (15.72 acres). Tract 2 is where the proposed Gardiner business is to be constructed.

Holding Tank

The applicant wants to install an RV dump at the complex which would be served by a 5,000 gallon holding tank. The proposed tank location is located approximately 800-ft from the floodplain of the Yellowstone River, more than 10-ft from a building structure, more than 10-ft from the property line, and more than 50-ft from the proposed water supply well.

Holding tanks are more practical to serve an RV dump station as opposed to a traditional septic tank-drainfield system. RV dumps generate high strength wastewater that will not be treated well by a discharging system. Traditional systems are designed to accommodate flows that generally contain more gray water than black water while waste dumped by RVs generally contain more black water than gray water.

The Board of Health has adopted the county regulation 8.21 for permitting of a holding tank:

*Holding Tanks: As defined in Subsection 3.19, this system collects sewage; no effluent is discharged. This type of system will not be Permitted to be used of installed in Park County without a variance granted by the Park County Board of Health.*

Approval of a variance by the Board of Health may only be granted if the criteria of ATM 17.36.922 are met.





# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
406-222-4145 parkcounty.org

## Discussion of ARM 17.36.922 Criteria

The Board of Health may grant a variance from a requirement only if it finds that all the criteria of ARM 17.36.922 are met.

The Department offers comments (bold) on the following criteria:

- (a) Granting the variance will not:
  - a. contaminate any actual or potential drinking water supply;
    - i. **Department Comment: Holding tanks are non-discharging and do not contaminate actual or potential drinking water supplies**
  - b. cause a public health hazard as a result of access to insects, rodents, or other possible carriers of disease to humans;
    - i. **Department Comment: The proposed holding tank will be constructed of concrete which does not allow access to insects, rodents, or other possible carriers of disease to humans**
  - c. cause a public health hazard by being accessible to persons or animals;
    - i. **Department Comment: The proposed holding tank will be sealed with lids that are used to pumping access and will not cause a public health hazard by being accessible to persons or animals**
  - d. violate any law or regulation governing water pollution or wastewater treatment and disposal, including the rules contained in this subchapter except for the rule that the variance is requested from;
    - i. **Department Comment: The proposed holding tank is allowed pursuant to a variance through Park County Regulations 8.21**
  - e. pollute or contaminate state waters, in violation of 75-5-605, MCA;
    - i. **Department Comment: Holding tanks are non-discharging and do not pollute or contaminate state waters, in violation of 75-5-605, MCA. Furthermore, all septage from the proposed holding tank will be removed by a licensed septic hauler and disposed in accordance with state regulations**
  - f. degrade state waters unless authorized pursuant to 75-5-303, MCA; or
    - i. **Department Comment: Holding tanks are non-charging and do not degrade state waters**
  - g. cause a nuisance due to odor, unsightly appearance, or other aesthetic consideration;
    - i. **Department Comment: Holding tanks are sealed and buried below the surface and do not cause a nuisance due to odor, unsightly appearance, or other aesthetic consideration**
- (b) compliance with the requirement from which the variance request would result in undue hardship to the applicant;
  - i. **Department Comment: Holding tanks are more practical to serve an RV dump station as opposed to a traditional septic tank-drainfield system. RV dumps generate high strength wastewater that will not be treated well by a discharging system. Traditional systems are designed to accommodate flows that generally**



# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
406-222-4145 parkcounty.org

**contain more gray water than black water while waste dumped by RVs  
generally contain more black water than gray water**

- (c) the variance is necessary to address extraordinary conditions that the applicant could not reasonably have prevented and;
  - i. **Department Comment: This application is to install a new holding tank to serve a proposed RV dump station at Gardiner Business Park, there are no extraordinary conditions that the applicant could not have reasonably prevented**
- (d) no alternatives that comply with the requirement are reasonably feasible.
  - i. **Department Comment: Due to the nature of RV dump stations to generate high strength wastewater, no alternatives that comply with the requirements without a variance are reasonable feasible**

## Department Position

It is the Department's recommendation to approve the variance request. The risk to public health, safety, and the environment at this location are such that a 5,000 gallon holding tank serving a RV dump station is the most protective system. I would approve the system with these following conditions: (1) the owner maintains a contract with a septic pumper to service within 24 hours of a high water alarm, (2) the owner keeps records of pumping and will provide upon request to the Department, (3) allows the Department to perform 24-hour leak tests when requested, (4) and the permit application meet the requirements of ARM 17.36.916, 17.36.918(4) and DEQ-4. The request for a holding tank is a reasonable alternative to onsite disposal.

Please review the attached documents that I believe meet all the requirements of ARM 17.36.922 and forward any questions you may have to myself. I unfortunately will not be able to attend the meeting on April 9<sup>th</sup> as I will be at a training in Butte that I had previously agreed to attend. Ashley Flammond will be in attendance to field any questions that may arise during the meeting.

Sincerely,

Kaleb Pearson, MS, REHS/RS  
Lead Sanitarian, Park County Environmental Health



March 31, 2019

Park County Environmental Health  
Kaleb Pearson, Park County Sanitarian  
414 E. Callender Street  
Livingston, MT 59047

**RE: Gardiner Business Park  
Gov't Lots 12 and 14  
Variance Request**

Dear Mr. Pearson,

Water and Environmental Technologies (WET) on behalf of Jeff Guengerich, Gardiner Business Park owner, is asking permission to install a 5,000-gallon holding tank for RV wastewater. The proposed development includes an auto repair shop with plans to service the needs of customers touring Yellowstone Park in recreational vehicles.

The proposed tank would be a 5,000-gallon tank equipped with a high level alarm as shown in **Figure 1**.

Please find the *Park County Onsite Wastewater Treatment System Permit Application* in **Attachment 1**.

Jamie Hillman of Crazy Mountain Industries (Park County Installer ID#16) agrees to pump the holding tank within 24-hours of high alarm as documented in **Attachment 2**.

If you have any questions, please contact me at [aflammond@waterenvtech.com](mailto:aflammond@waterenvtech.com) or (406) 551-9329. Thank you for your review.

Sincerely,

A handwritten signature in cursive script that reads 'Ashley Flammond'.

Ashley Flammond  
WET Project Engineer

cc. Mr. Jeff Guengerich, Owner

## Figures

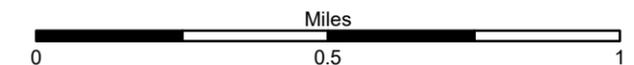
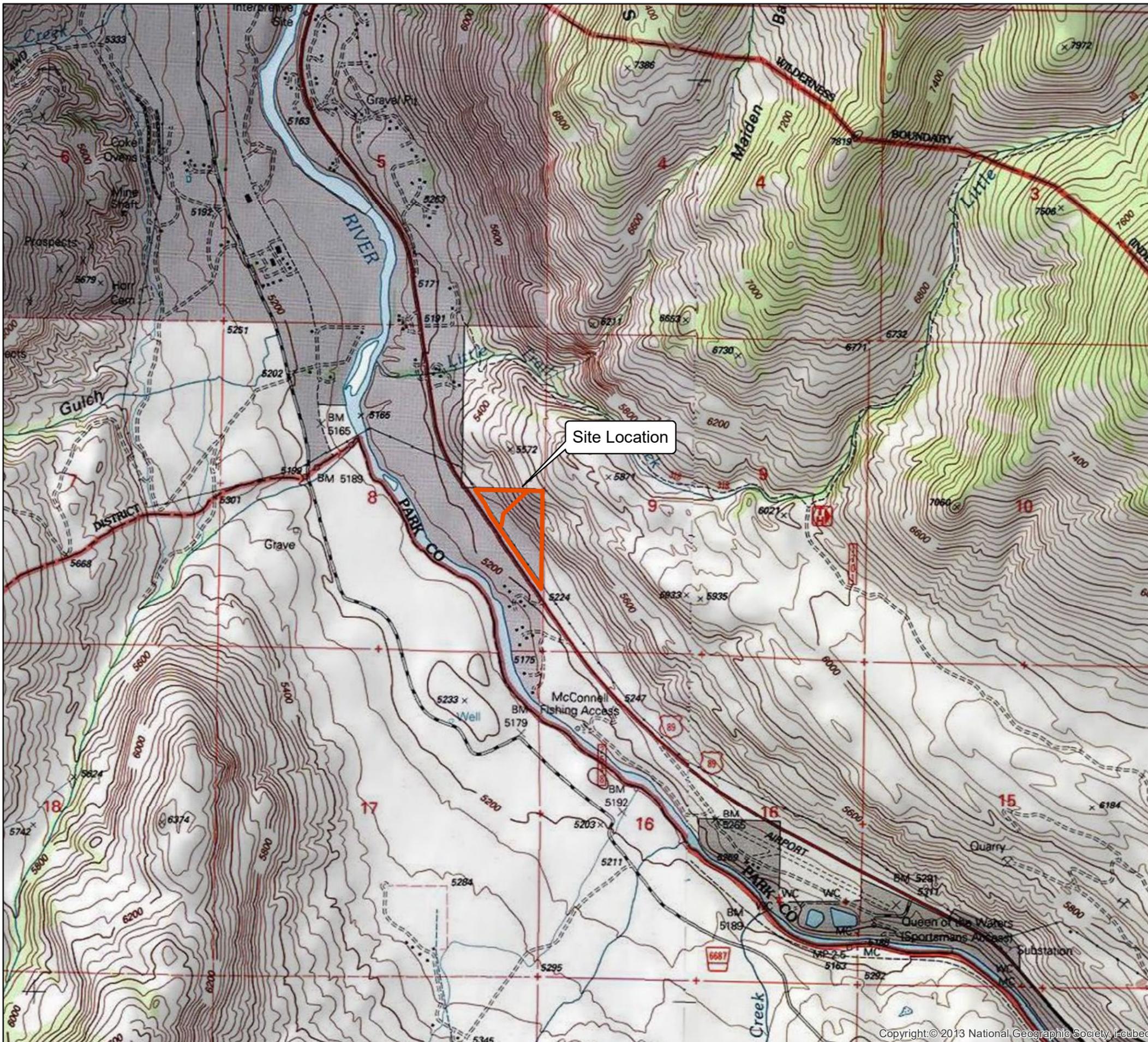


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend	
	Property Boundary

<b>MDEQ Minor Subdivision Application Gardiner Business Park</b>	
<i>Site Location - Aerial</i> <b>T9S, R8E, S8 - Park County MT</b>	
Job#: GUENGERICHM01 - TASK	<b>FIGURE 1</b>
Date: 1/29/2019	
<small>Path: M:\Guengerich\M01\MDEQ\F01_Site_Location_Aerial.mxd; Author: aflammond</small>	



<b>Legend</b>
— Property Boundary



**MDEQ Minor Subdivision Application  
Gardiner Business Park**

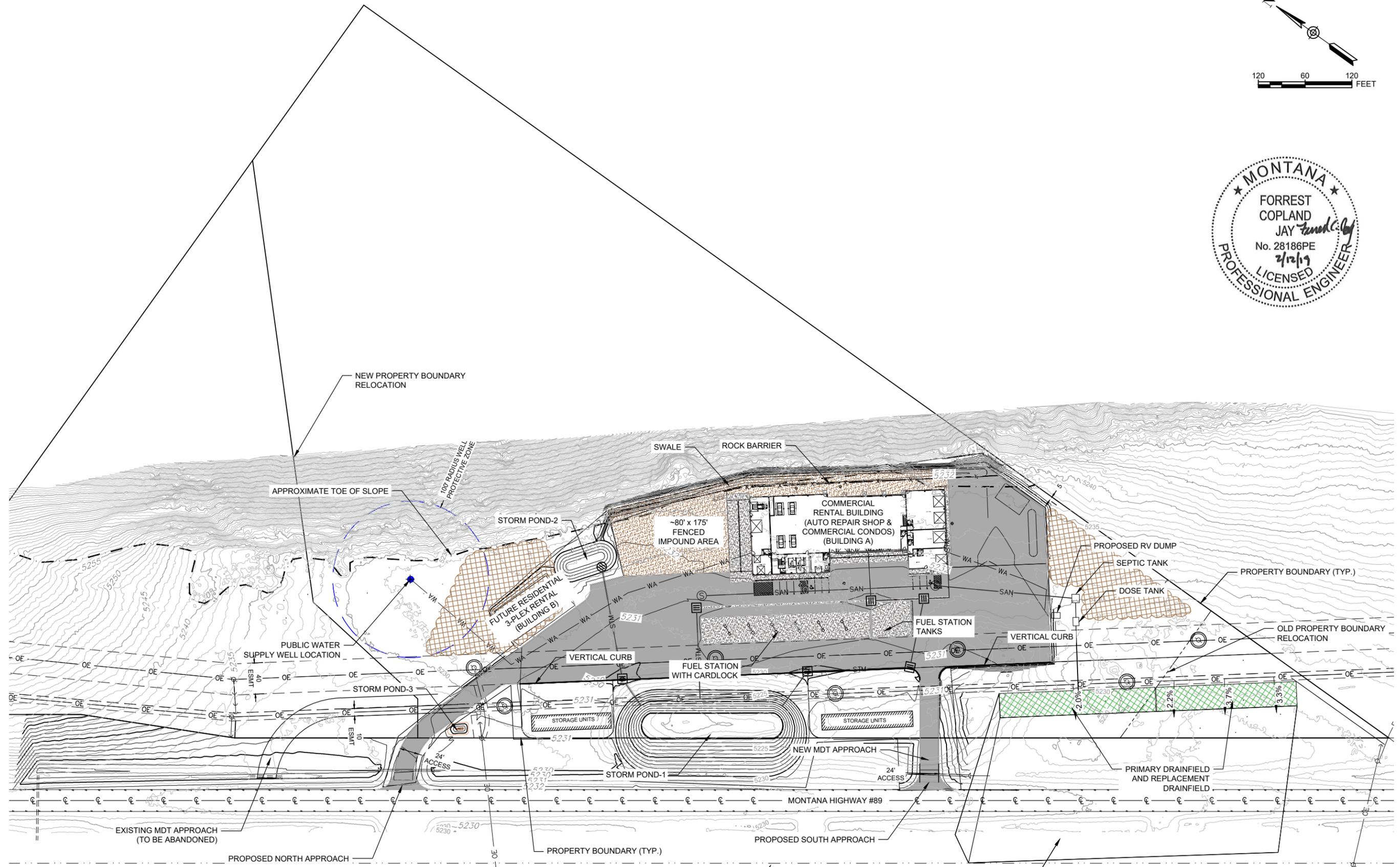
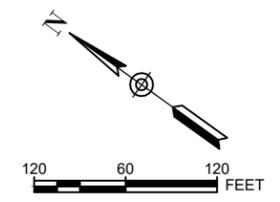
Site Location - USGS Topo  
T9S, R8E, S8 - Park County MT

Job#: GUENGERICHM01 - TASK

Date: 1/29/2019

Path: M:\Guengerich\01\MDEQ\F02\_Site\_Location\_Topo.mxd; Author: aflammond

**FIGURE 2**



OWNER (RESPONSIBLE ENTITY): JEFF GUENGERICH  
 SITE PLAN BY: ASHLEY FLAMMOND  
 CHECKED BY: FORREST JAY, PE

No.	Description	Date	Drawn By
1	VERTICAL CURB		

**GARDNER BUSINESS PARK  
 PROPOSED SITE PLAN**

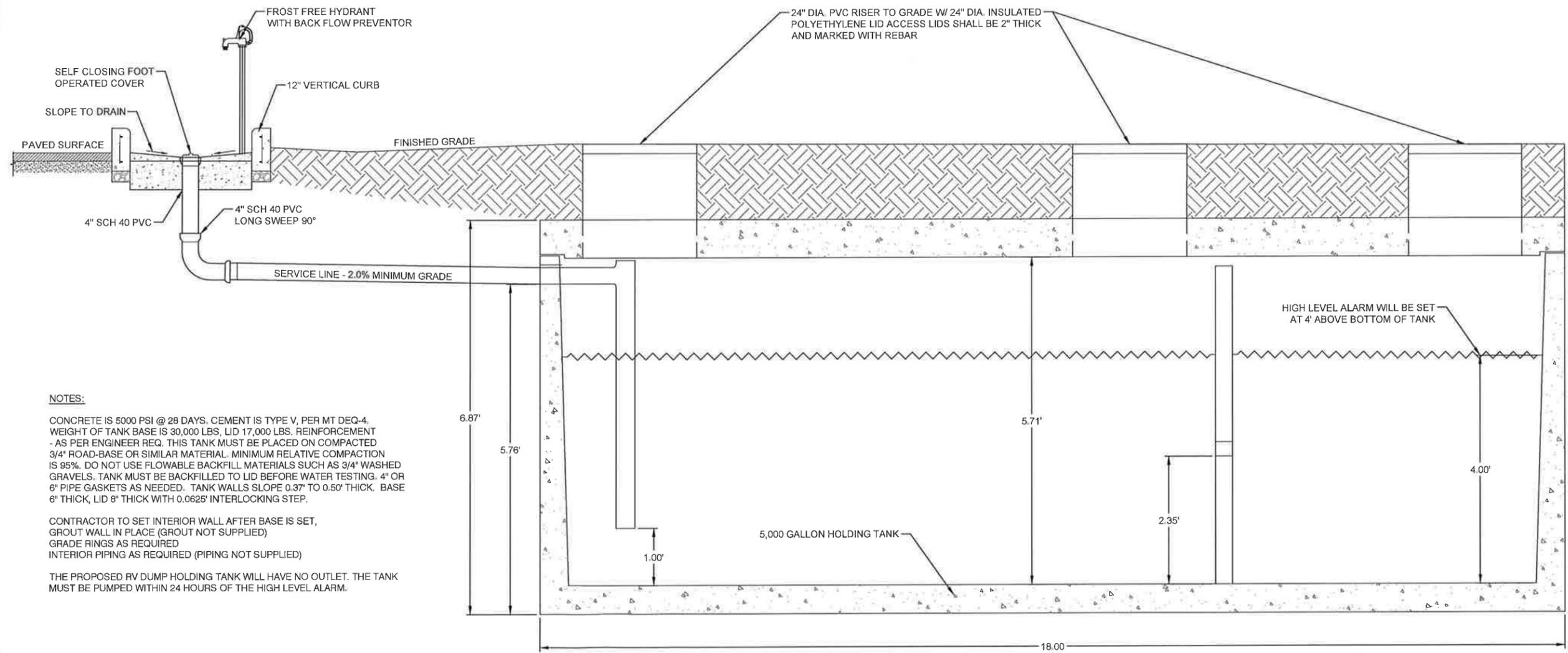
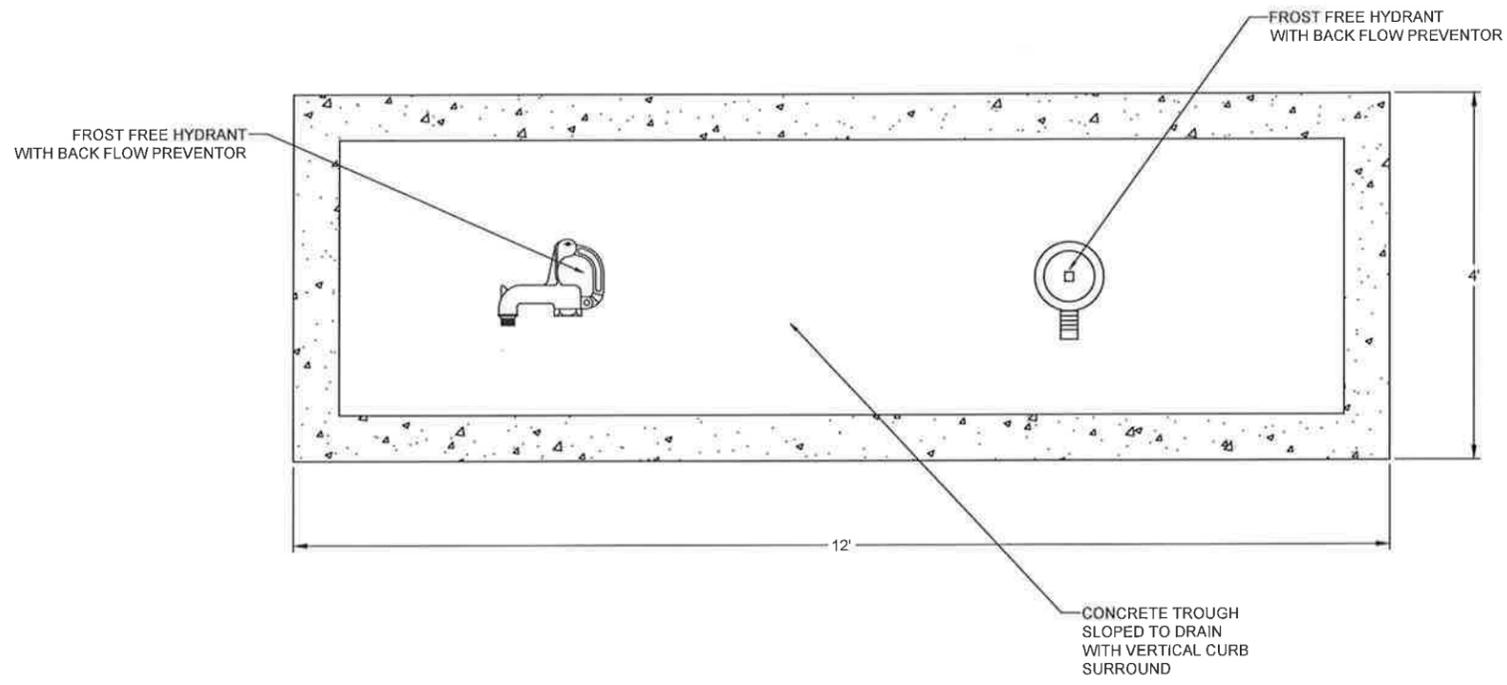


PROJECT NAME: GARDNER BUSINESS PARK  
 LOCATION: GOVT LOTS 12 & 14 - T9S, R8E, S8  
 FILE NO.: SC-BM04-GUENGERICHM01.dwg

JOB NO: GUENGERICHM01  
 DATE: 1/17/19  
 DRAFTER: A.F.  
 CHECKED BY: F.J.  
 SHEET  
**C2**

M:\Guengerich\01\CAD\CIVIL\SC-BM04-GUENGERICHM01.dwg PLOT DATE: 2019-2-13 17:14 USER: aflammond

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**NOTES:**

CONCRETE IS 5000 PSI @ 28 DAYS. CEMENT IS TYPE V, PER MT DEQ-4. WEIGHT OF TANK BASE IS 30,000 LBS, LID 17,000 LBS. REINFORCEMENT - AS PER ENGINEER REQ. THIS TANK MUST BE PLACED ON COMPACTED 3/4" ROAD-BASE OR SIMILAR MATERIAL. MINIMUM RELATIVE COMPACTION IS 95%. DO NOT USE FLOWABLE BACKFILL MATERIALS SUCH AS 3/4" WASHED GRAVELS. TANK MUST BE BACKFILLED TO LID BEFORE WATER TESTING. 4" OR 6" PIPE GASKETS AS NEEDED. TANK WALLS SLOPE 0.37" TO 0.50" THICK. BASE 6" THICK, LID 8" THICK WITH 0.0625" INTERLOCKING STEP.

CONTRACTOR TO SET INTERIOR WALL AFTER BASE IS SET, GROUT WALL IN PLACE (GROUT NOT SUPPLIED) GRADE RINGS AS REQUIRED INTERIOR PIPING AS REQUIRED (PIPING NOT SUPPLIED)

THE PROPOSED RV DUMP HOLDING TANK WILL HAVE NO OUTLET. THE TANK MUST BE PUMPED WITHIN 24 HOURS OF THE HIGH LEVEL ALARM.

No.	Description	Date	Drawn By

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Water & Environmental  
TECHNOLOGIES

151 Evergreen Drive  
Bozeman, MT 59715  
(406) 552-0413  
WATERVENTECH.COM

**GARDINER BUSINESS PARK  
RV DUMP DESIGN**

PROJECT NAME: GARDINER BUSINESS PARK  
LOCATION: GOVT LOTS 12 & 14 - 19S, R8E, S8  
E. NO. SC-DT02-GUENGRICHM01.dwg

JOB NO: GUENGRICH  
DATE: 1/17/19  
DRAFTER: NK  
CHECKED BY: F.J.

SHEET  
**SS3**

M:\Guengrich\02\CAD\CIVIL\SC-DT02-GUENGRICHM01.dwg PLOT DATE 2019-04-2 11:51 USER: ahammond



**Attachment 1**

Park County Onsite Wastewater Treatment System Permit Application



Onsite Wastewater Treatment System Permit Application
Park County Environmental Health
Phone: (406) 222-4145 Fax: (406) 222-4763
414 E. Callender Street
Livingston, MT 59047

For office use only:
Permit Number
Application Fee \$
Receipt #
Check #
Paid by
Tax ID #

Owner information

Property owner Mr. Jeff Guengerich Phone 406-848-7333
Mailing address P.O. Box 801 City, State Gardiner, MT Zip 59030

Statement of Accuracy and Permission to Inspect:

As the owner of the parcel of land described within the permit application, my signature below declares the information provided here is to the best of my knowledge. I acknowledge that the County Sanitarian and/or members of the Park County Board of Health are hereby empowered and authorized to enter upon my private property for the purpose of inspection and investigation concerning the onsite wastewater treatment system that treats, discharges, or disposes of wastewater to determine compliance with Park County and the State of Montana regulations.

Property owner signature (required) Jeff Guengerich Date 4-1-19

Property information

Site Address/Location 2.5 miles northwest of Gardiner, MT Town/City Gardiner, MT
Section 8 Township 9 S Range 8 E Gov't Lots 12 & 14
Name of Subdivision (if applicable) Gardiner Business Park Tract/Lot # 1 & 2
Directions to site Tract 1 at 5.38-acres and Tract 2 at 15.72-acres are 2.5 miles northwest of Gardiner, MT
on the east side of U.S. Highway 89.

Permit information (Check all that apply)

System to be installed by Jamie Hillman, Crazy Mnt. Industries, Park Co. Installer ID#16
Park County licensed installer
[ ] New [ ] Repair/Replacement System [ ] Upgrade/Expansion [ ] Connect to Existing Permit #
[ ] Residential system [ ] Seasonal residence [ ] Full-time residence
Number of living units \*Living unit means the area under one roof that can be used for one residential unit and which has facilities for sleeping, cooking, and sanitation. A duplex is considered two living units.
Number of bedrooms in each living unit (including unfinished basements)
[ ] Commercial system [ ] Private (serving <24 or more people <60 days per year) [ ] Public (serving >24 or more people >60 days per year)
Number of commercial units RV Dump holding tank \*Public systems require Montana DEQ approval
Daily design flow (gpd) Rationale for design flow (include calculations) 5,000 gallons

**System design and specifications\***Septic tank size \_\_\_\_\_ Pump chamber size \_\_\_\_\_  Concrete  Fiberglass  Other \_\_\_\_\_

Drainfield components \_\_\_\_\_

\*On-site Wastewater treatment systems shall be designed and constructed in accordance with the requirements described in ARM Title 17, Chapter 36, Subchapters 1-8, Subdivision Rules, and ARM Title 17, Chapter 36, Subchapter 9, On-site Subsurface Wastewater Treatment, and Montana Department of Environmental Quality Circular DEQ 4, 2013 edition, Park County Onsite Wastewater Treatment Regulations, and "How to Perform a Non-degradation Analysis for Subsurface Wastewater Treatment Systems Under the Subdivision Review Process", Revised October 2015, or most recent editions.

**Site evaluation report** (if applicable, submit additional documents as necessary)

Date of soils test \_\_\_\_\_ Weather conditions \_\_\_\_\_

Horizon/Depth	Soil Description (include type, texture, structure, mottles, limiting layers, etc.)

Application rate according to Table 2.1-1 Montana DEQ Circular 4 \_\_\_\_\_ ft<sup>2</sup>/gpdComments/Unusual site features The Gardiner Business Park includes an auto repair shop.This is a request for permission to install a 5,000 gallon holding tank to accomdate RV customers.Non-degradation analysis included:  Yes  No, this property meets the requirements of categorical exemption # \_\_\_\_\_

If no, provide further details \_\_\_\_\_

**Please submit all applicable documentation with this application-** including but not limited to: flood plain maps, proposed lot layout, septic layout, pump requirements, well and water line locations, surface water locations, ground water monitoring results, etc.

**A permit will not be issued until all necessary documentation has been received and approved by this office**

As a Park County licensed site evaluator, my signature verifies that I have addressed the above parameters for this site. I have completed the site evaluation according to all applicable rules and regulations and the documentation provided above accurately reflects the conditions at this site. All information herein provided is true, complete, and correct to the best of my ability and knowledge.



Signature of site evaluator

A. Flammond

Printed name

3-31-19

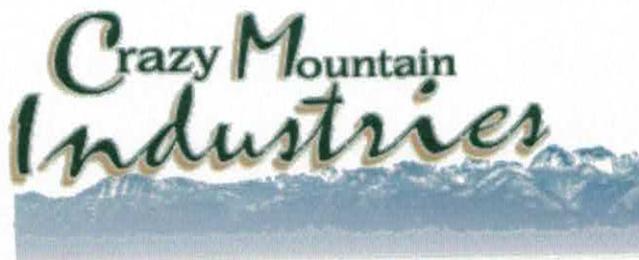
Date

**Attachment 2**

Jamie Hillman Letter

Crazy Mountain Industries

Crazy Mountain Industries, Inc.  
#3 Industrial Park Road  
PO Box 902  
Livingston, MT 59047  
Phone 406-222-0025  
Fax 406-222-5388



March 31, 2019

Park County Environmental Health  
Kaleb Pearson, Park County Sanitarian  
414 E. Callender Street  
Livingston, MT 59047

**RE: Gardiner Business Park  
Gov't Lots 12 and 14  
Variance Request**

Dear Mr. Pearson,

Crazy Mountain Industries and Gardiner Business Park will be under contract for the routine pumping service for the proposed 5,000 gallon waste holding tank near Gardiner.

Our company will respond within 24 hours of notification of a high-level alarm.

Should you require any further information, please do not hesitate to contact me.

Respectfully,

*Jamie Hillman by TT*

Jamie Hillman  
President